

Minicom Photography

*How to make better
PICTURES!*



★
SPECIAL
ARKROOM
ISSUE
★

'WE WERE SUNK BY A NAZI RAIDER'

THE Photographer's Own Story of the War's Greatest Photo Scoop!

AS USED BY

Wm. Mortensen



Wm. Mortensen demonstrated make-up technique at the Mortensen School of Photography in Los Angeles, California.

ANATOLE ROBBINS

Prismatic Make-up Kit

At last! An expert's formula to solve the portrait photographer's most difficult problem — correct make-up — recommended by America's foremost authority on portrait work, Wm. Mortensen.

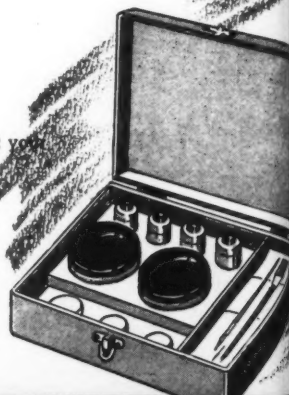
Few women have the natural perfection of skin required by the searching eye of the camera . . . and since conventional theater or street make-up is absolutely unsuitable, and the usual cinematic cosmetics give a far too artificial appearance, Anatole Robbins of Hollywood has evolved his "Prismatic Make-up Kit," combining the following prime features:

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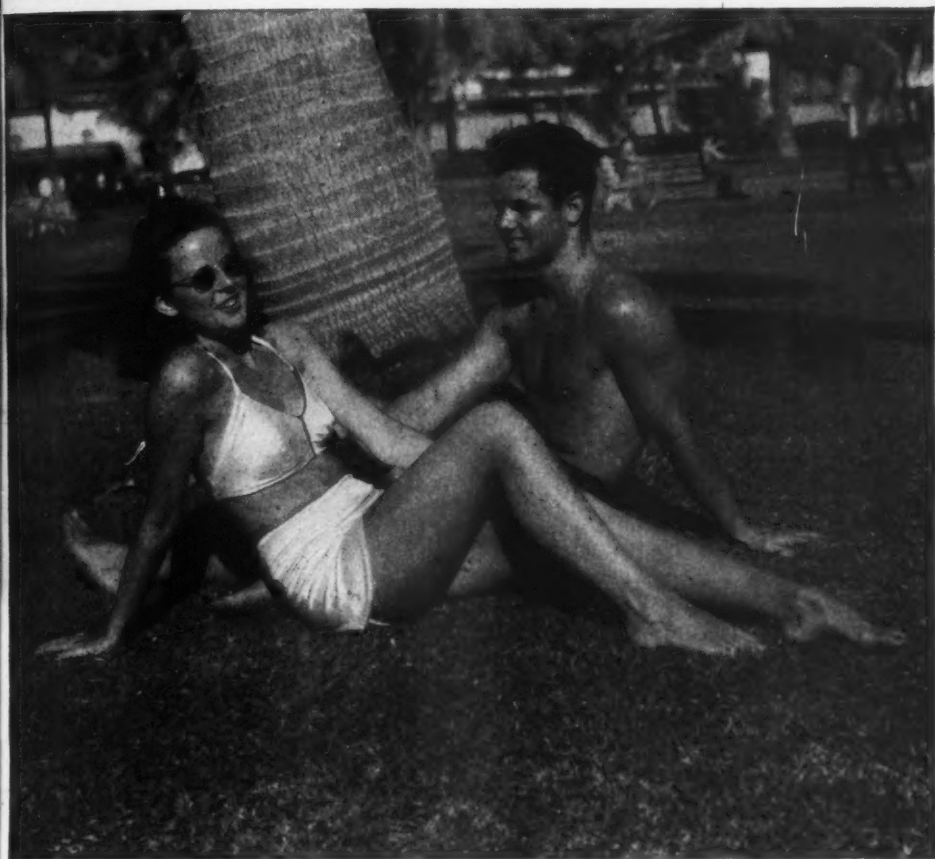
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Minicam Photography

MINIATURE
CAMERA
MONTHLY

EDITED BY WILL LANE, A. R. P. S.

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IN FOCUS



LETTERS to this department may be addressed to "In Focus" Department, MINICAM Magazine, 22 East Twelfth Street, Cincinnati, Ohio.

Civilization and the Juggernaut

Sirs:

A delicate flower pleads mercy of a giant mechanical wheel about to crush it!

This symbolic thesis is often drawn by painters. The camera also can do "idea" pictures.



This one was taken with a Rolleicord camera at 1/50 second, f/8. Needless to say the automobile wheel and the flower were posed.

H. A. KHARAS.

Bombay, India.

No Shortage Here

Sirs:

Although there is a shortage of flash lamps in England, U. S. camera fans

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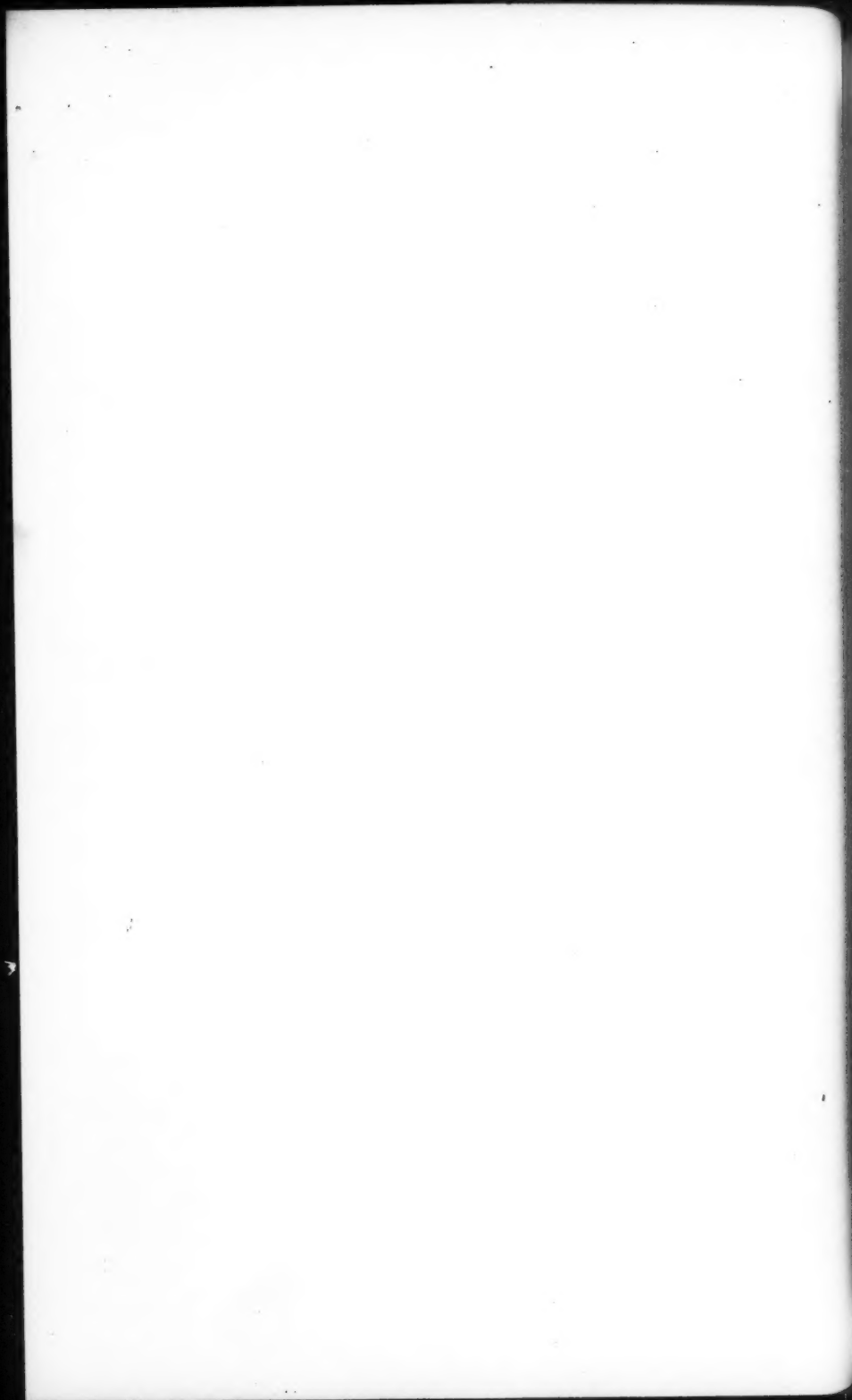


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flower

RAS.

f flash
a fan

No. 1



Wollensak means Good Lenses



"Little Refugee" by Georgette Elder of New York City. A relative newcomer in the photographic field, Georgette Elder has already won an enviable reputation for her exceptionally fine illustrations of young children.

Georgette Elder writes: "This photograph shows, I believe, the great improvement that can be made by using a Wollensak Velostigmat lens in making enlargements." The lens in this case was a 6½ inch f4.5 Wollensak Velostigmat. Georgette Elder regularly uses Wollensak lenses in her work. Improve *your* photography with a Wollensak.

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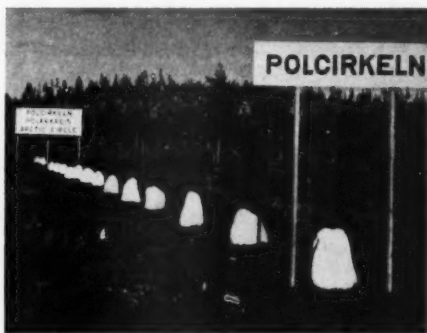
The Arctic Circle

Sirs:

This unusual picture, taken in northern Sweden, shows what the Arctic Circle looks like. The Swedish Government has marked this place with a row of stones, painted in white, to show in which direction it runs, and have placed a big sign with each end of the line, the first one reading Arctic Circle in Swedish and the next one reads the same name in Swedish, German and English.

A two days trip by express train from southern Sweden used to get you there, the train of the much-discussed ore-line Boden-

Kiruna-Riksgransen-Narvik, crosses the Circle just on this spot. The engineer used to slow down when passing to give passengers a look.



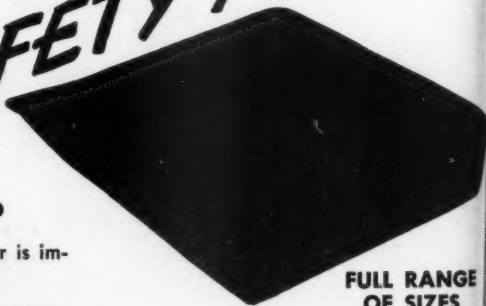
I arranged with the stationmaster at Kiruna to get to this place by train, and the next day the 8th of July, 1938, about 3 p. m., the train slowed down and left me in a swampy wilderness.

But getting the picture was harder than I would have believed. When I opened my camera case, the smell of the leather attracted thousands of mosquitos and other insects. Using a 9x12 cm. Ica Juvel camera, it was especially difficult to keep the mosquitos from

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getting into the camera when changing plate-holders. Exposure was 1 second, at $f/36$.

After three exposures were made, I was fast in getting my camera back in the case, and heading for the railroad. Although I had rubbed my face, neck and hands with oil to protect me against insects, they bothered me plenty. I had to wait more than an hour before I heard 3 short signals. It was from that northbound train which had orders to pick me up, and two hours later I was back in my hotel in Kiruna.

Last month's In Focus picture, "Siberia" suggested my sending you this one.

SIGFRID A. LARSON.

New York City.

Birds of Prey

Sirs:

In London, there is a statue of a falconer sending out his trained falcon after wild game.



To illustrate how times have changed, I printed in a modern photograph of a Nazi plane bringing down a barrage balloon.

The foreground statue actually was taken in Central Park, New York City. It is a pretty good substitute for the statue I once saw in Europe.

HARRY W. FURSTAND.

New York City.

Ideal Camera

Sirs:

Speaking of that "ideal camera:"

If an American manufacturer would bring out a camera using No. 120 roll film, making eight $2\frac{1}{4}$ " by $3\frac{1}{4}$ " negatives per roll, with a really fast lens, a focal plane shutter, a coupled range finder, and built-in flash synchronization—and incorporating the refinements usually found on miniature cameras, such as the film

CONTAX III

makes it EASY!



All controls are at top of camera, permitting the use of an Eveready Carrying Case, in which camera remains while taking pictures.

Ease and simplicity of operation in a camera leads to *certainty* and better results for the user—and that's where the Contax III shines.

This *complete* miniature offers a built-in electric meter, which you can't "forget to take along" — important when critically exact exposure is essential. Range-finder and view-finder are combined in one opening—no nervous shifting of camera for viewing and focusing. All controls are operated by the *right* hand—middle finger works focusing wheel, first finger the release. All speeds are controlled by one dial, and can be set before or after winding shutter. And there are no external rotating parts which might, if inadvertently touched, interfere with the normal operation of the camera.

Choice of 15 interchangeable Zeiss Lenses, including the super-fast Zeiss Somar $f/1.5$.

SUPER IKONTA BX

also has a built-in exposure meter and a combined view- and range-finder. $12\frac{1}{4}$ " x $2\frac{1}{4}$ " pictures on a roll.



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advance coupled to the shutter winding knob
—I firmly believe that there would be a rush
for such a camera like the California gold
rush of '49.

Personally, I'd want one right away!

GEORGE G. SMITH.

Comanche, Texas.

"Shooting" the Soldiers

Sirs:

I just want to explain how simple it is to
sell snapshots.

An idea came to me a few weeks ago when
our local Field Artillery left for Camp Shelby,
Miss. I live in a small town and this was
the first time in history that our local troop
ever departed for military training during
peace times—if you can call it "peace times."
The camp is 1000 miles away. The boys left

behind them
their families,
wives, children,
and sweet-
hearts, so who
wouldn't want
pictures?

The day of
the departure,
I loaded my
Leica with a
36-exposure roll



of film and went to the corner where a parade
was being formed. As the bands boomed, and
the companies began to march, I started to
fire away. I followed the parade to the sta-
tion taking closeup and distant shots at about
1/200 of a second. At the depot there were
2000 people to see the boys off and when
they broke ranks my next plan of attack was
to shoot individual closeup shots of soldiers
bidding farewell. Most of them were unaware
of me and I knew I was getting some marvel-
ous candid shots.

I made a total of 72 exposures and 60 of
them were good. They were filled with human
interest and really told a story. I had pic-
tures of young engaged couples, of newly-weds,
of boys shaking hands with their pals, of men
saying goodbye to their wives and children, and
several of them were on the verge of tears. I
printed the 60 pictures on 4 x 5 inch paper
and pasted them on a large cardboard.

One of the local merchants displayed this
in his window with a poster giving my address.
I numbered the pictures and charged only a
quarter apiece so everyone could afford to
buy one. You would be amazed at the won-
derful reception they received. Crowds gath-
ered at the store window and the orders be-
gan to flow in. Already I have sold 200 prints
(net \$50.00) which is a goodly number con-
sidering the smallness of our town.

Lock Haven, Pa.

DARR MC GHEE.

"The **DA-LITE** GLASS-BEADED SCREEN

(Reg. U. S. Pat. Off.)

is '**TOPS**' for Kodachrome Projection"

O. J. MCGILLIS

GREAT NORTHERN RAILWAY



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is the only screen that can be adjusted in height merely by releasing a spring latch and raising extension support. No separate adjustments of the case. The Challenger is also the only screen with square tubing in tripod and extension support to hold the screen rigid and keep it perfectly aligned. 12 sizes from 30" x 40" to 70" x 94".

Mr. O. J. McGillis, Advertising Manager, writes—"We have always used Da-Lite Screens for showing our color films, for we find the *Da-Lite Glass-Beaded Screen* is '*Tops*' for Kodachrome projection. It brings out the full brilliance and true colors of color film as no other surface can. We use an 8 ft. x 10 ft. screen and a number of 52" x 72" Challengers. Because there is considerable amount of traveling in showing our films throughout the country, we greatly appreciate the ease and convenience with which Challenger Screens are handled in transit. We use Da-Lite Screens exclusively."

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Now being used in showing Great Northern's gorgeous color movie, "In All the World."

This expert portrayal, in sound and color motion pictures, of a 3-day trip through the Glacier-Waterton International Peace Park gives tourists a most attractive "pre-view" of the superb scenic beauty of this glorious vacationland.

In presenting this film through its passenger traffic offices, Great Northern uses Da-Lite Screens exclusively.

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"Ectoplasm"

Sirs:

Photographs purporting to prove that we are surrounded by supernatural forces appeared sometime ago in a national magazine. Most of the "proof" consisted of pictures of mediums emanating "ectoplasm" out of their ears, mouth, etc.

Far be it from me to approve or disapprove of spiritualism, but doesn't this picture look suspicious? It was taken with one photoflood held at about

3 feet, the exposure on Super XX film being 1/50 second, f4.5.

I was not trying to photograph a subject producing supernatural matter, however. I was only trying to get a snapshot of a smoke ring and that's what it is—cigarette smoke.

ARTHUR PAULINE.

New York City



"What will I be wearing? Didn't I tell you about my new 50mm./f2.5 double anastigmat?"



OUR FAVORITE photo tipster comes from south of the border and is, it seems to us, addicted to smoking marahuana. His latest report is on the fantastic, though credible, side. Experiments are underway, he says, in the laboratories of one of our big film factories, to perfect a film which carries its own developer and fixer. The negative, when placed in ordinary tap water will develop and fix itself. Being in a light-tight envelope, this operation may take place in broad daylight.

The manufacturers of the British **Compass** camera promised something along this line more than two years ago. Perhaps the war, happily, interfered.

● **CLARK GABLE** is torn between choosing movies or still camera after the expected event . . . the

wise money says he'll shoot both and if he's half as handy with camera as he is with a gun in the Idaho back country he should make the MGM pros green with envy. . . . Thieves broke into Wally Beery's house when he was away on a flying trip several weeks ago and among other things scooped his entire camera outfit . . . he's not worried since everything was insured. . . . Tyrone Power is now a photographic dealer . . . owns a Westwood Village camera shop. . . . That fist fight between George Raft and Edward G. Robinson on the Warner Bros. set grew out of each trying to out-jockey the other for best camera positions. . . . Robinson is one of the few Hollywood stars who doesn't shoot pictures . . . collects art instead and owns Grant Wood's "Daughters of the American Revolution." . . .

● **WE HEAR** that International Research bought up all the old model Argus AF cameras around, wanting the lenses for use in much-needed army equipment. Their new lens plant is now furnishing all of the lenses they need. Argus "A" cameras are getting scarce while the model "B" which has an f2.9 French-made lens and a Prontor II shutter has be-

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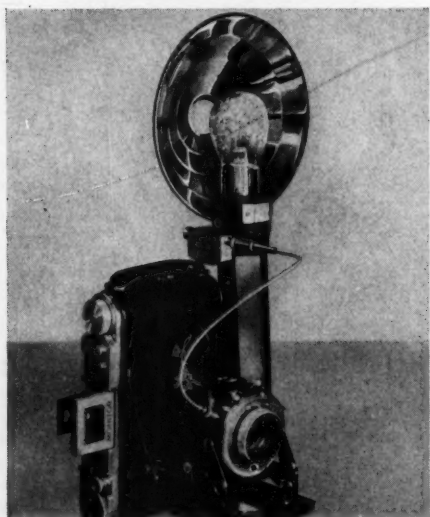
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come a collector's item. Only a thousand of the latter issued in the first place, they claim. Originally sold at \$25.00. Used ones are now bringing \$35, which is something.

• **PRESIDENT** of the Los Angeles Flower League is none other than our chief frightener, Boris Karloff, whose hobby also is shooting flowers in color . . . his real name is Charles Pratt. . . . Billy Wilkerson, owner of the Hollywood Reporter, couldn't master a Graflex. . . . Hymie Fink has got himself a new Roliflex with a Heiland-Sol gun, a special fitting. He shoots the stars' night life for screen magazines. . . . Cutest press agent yarn of the month had Rochelle Hudson taking pictures of her Beverly Hills home when a kid stole her bicycle, which event she photographed as the kid got away. Police picked up the kid, who claimed he found the bike until he was shown her picture. Kid turned out to be a runaway from Detroit. Rochelle refused to press charges and sent the kid home instead.

• **OUR ROLLIE** accompanied us on a two week fishing trip in Mexican waters. On the very first day out of Ensenada, it must have been the Mexican beer together with the blistering sun, we hooked into a tuna, reached for the camera, forgot the star drag was locked down and was almost yanked overboard. The camera went down in thirty fathoms. To top it off, we lost the fish.

Later, the big sailfish and broadbill were reported up towards the Coronado Islands. We got a small sail but lost him to sharks. The skipper brought out a tommy gun which got a shark to even up the score. Ten days later we tried the same spot where we lost the camera, socked a forty pound tuna, gaffed him and once on deck, something told us to cut the fish open and look inside. Hopefully, we did and—what would you think? No, the camera wasn't inside. We were disappointed, too.



"Trick photography, I bet."

Satisfaction

IN THE
DARK ROOM

BEGINS WITH
NEGATIVES

*correctly
exposed*

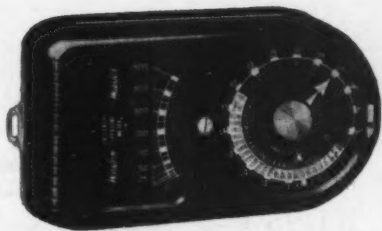


YOU'LL get a new thrill...far greater satisfaction from your darkroom efforts...if all your negatives are MASTER exposed.

That's because the MASTER, with its exclusive exposure dial, will enable you to expose each negative for the exact results you want in the finished print. The detail...the shadows...the highlights...or any special effects you desire within the film latitude...all are readily obtained on the negative, with the MASTER.

But this negative control is only one of the many exclusive MASTER features which have made this exposure meter the universal favorite of darkroom fans. Ask your dealer for the complete story; or, write for illustrated literature. Weston Electrical Instrument Corporation, 649 Frelinghuysen Ave., Newark, New Jersey.

In taking the above picture, this photographer quickly set his MASTER exposure dial to properly underexpose the tree, and thus attain this striking silhouette effect.



WESTON Exposure Meters

THE PHOTOGRAPHER'S STORY OF THE SINKING OF THE STEAMER ZAM-ZAM—HOW HE SHOT THE CATASTROPHE AND SMUGGLED IN HIS NEGATIVES TO SCORE THE WAR'S GREATEST PICTURE BEAT



David E. Scherman sailed for Africa on the Egyptian steamer Zam-Zam to take pictures for Life magazine.

His Nazi captors confiscated hundreds of negatives, but he succeeded in bringing home 4 small rolls of film containing his epoch-making pictures.



● WE WERE

SU

WOR

WHILE passengers and crew were abandoning the sinking Zamzam, Scherman, in lifeboat No. 1, took the above picture of another loaded lifeboat pulling away. FIG. 1

DAVID E. SCHERMAN, staff photographer for Life Magazine, was on the Zamzam when it was sunk on the high seas by a German armed merchant raider. More than a thousand pictures which Scherman took before and after his capture were confiscated by the Nazis, but he managed to smug-

gle out four rolls of film. An interesting biographical note on Scherman follows this article, but first we have lenshawk Scherman's own story of how he photographed the most secret subject in the world—a high seas raider—and how he smuggled his negatives into the U. S.

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SUNK BY A NAZI RAIDER!

WORDS AND PICTURES BY DAVID E. SCHERMAN

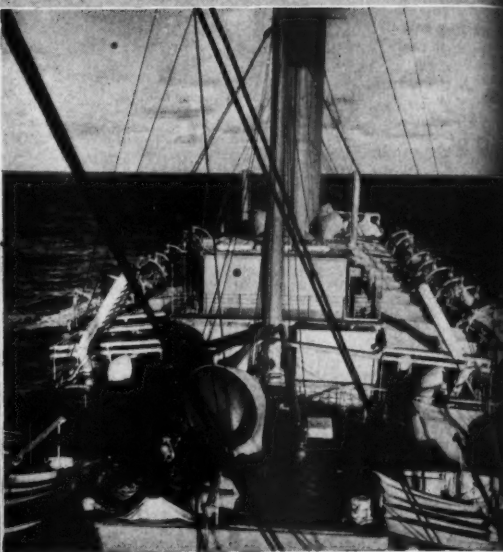
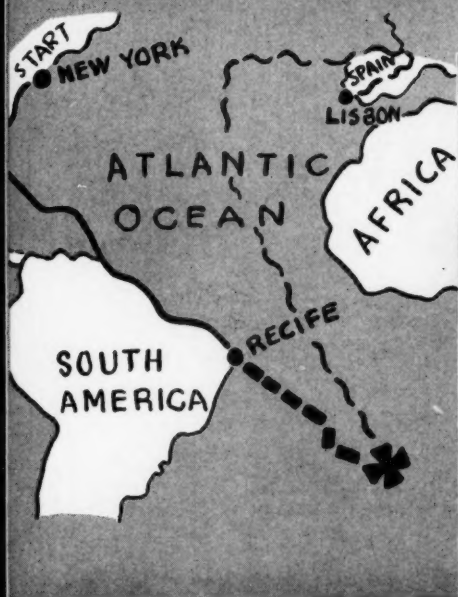
I WAS ordered to South Africa with Charles J. V. Murphy of *Fortune* magazine. Our assignment was a photo-report on the British war effort in that ticklish area around the Cape of Good Hope where gold, diamonds and tin comprise the white man's burden.

Two and a half months after we left, I walked back into the sanctum of John Shaw Billings, managing editor of *Life*,

with my camera in one hand and my heart, figuratively, in the other.

I wondered, sadly, if I had duplicated the legendary boner of Mike McGoon, the news photographer who failed to bring back a picture of Mrs. Schultz' prize cat because he was held up by a catastrophic bomb explosion in the city hall.

Like Mike McGoon, I was only trying to fulfill a routine assignment when the



SCHERMAN flew from New York City to Recife, Brazil. He sailed from Recife on the Zamzam on April 9. They were sunk on the 17th in the middle of the south Atlantic. Then occurred a month-long Odyssey of wandering and travel on the German raider and on a prison ship until a landing was made at St. Jean de Luz, France. FIG. 2

THE DAY before the Zamzam was shelled, he climbed the rigging of the jigger to make this view of the ship from the aftermost mast. A wind was blowing and he couldn't get up very high. The camera had to be rested on the ratlines. The exposure was 1/100 second at f/16. Even when the weather is calm, any perch above the deck of a ship in motion is a precarious one. The tall, smoking funnel was to make an excellent target for the raider. FIG. 3

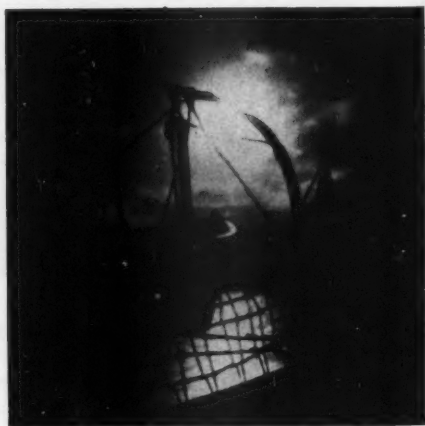
unexpected happened.

I never saw Africa, but had entrusted four rolls of film to a Clipper plane. I walked into the office of my boss, after an escape from a harrowing experience, not knowing whether I was an empty-handed McGoon.

When Murphy and I received the original assignment to South Africa, it was arranged that we fly from New York to Recife, Brazil, and there board the Egyptian steamer Zamzam.

The trip from South America to South Africa being a matter of approximately two weeks, we were to take advantage of this time to do a photographic essay on that floating madhouse, the Zamzam itself, or at least something for the "Life Goes to a Party" department. "It will be one of the funniest stories we've ever done," the Editors agreed when we left New York.

The Zamzam arrived in Recife a week



NIGHT before the sinking, the full moon was beginning to wane, making excellent material for night shots. While this was being taken, the Zamzam was being shadowed by the German raider Tamesis which was waiting for dawn before striking. FIG. 4

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THE attack came suddenly. While the passengers took to the lifeboats Scherman busied himself taking pictures. This shows passenger Tommy Miller carrying a child, Peter Leavitt, down into a lifeboat. FIG. 5



A GERMAN photographer came aboard when the prison ship Dresden landed in St. Jean de Luz, France, with its cargo of Zamsam survivors. He is a Nazi marine and his camera is a Leica. FIG. 6

late and we sailed on April 9, at 7 a. m., heading without benefit of lights or radio across the South Atlantic for Alexandria via the Cape of Good Hope.

For eight days we were not to see a ship.

The first day out, I walked the decks reconnoitering for camera material. The next day I started shooting people doing things. The passenger list totaled 202, mostly Americans but including a few Canadians, British,, Belgians and South Africans. The crew numbered 106 Egyptians, a sprinkling of other nationalities. I had the run of the ship.

Five days after we left Recife, we were steaming southeast toward the southern tip of Africa. About midafternoon, the ship suddenly swung around in a big arc and, like a scared rabbit, headed back toward South America.

I packed my camera shoulder-bag with emergency rations. First there went in the 18 rolls of film (120 size) which I already had shot. These represented 216 pictures. Then my Contax and Rolleiflex cameras, the latter in a waterproof bag. I had a Heiland synchronizer with six fresh Bright Star batteries, and three dozen G. E. No. 5 flashlamps. The kit was completed with six fresh rolls of film for the Rollei and some black scotch tape for emergency waterproofing. The flashbulbs might be used for signaling from a lifeboat if chance should dump us into one.

The wireless picked up a British QQQ warning that suspicious vessels were in the vicinity. Another message came in from a Norwegian ship: "Being chased by a German raider."

Dawn showing an empty sea, we pointed our course again for South Africa. The next day, Tuesday, the 15th, we were six days out of Cape Town, and we breathed easier.

I decided to try to get a shot of the ship from the jigger, which is the fourth mast. I climbed the ratlines or rope "steps" which go up the stays to the masthead. I didn't get up high enough to get the aerial view of the ship I had in mind, but I was high enough above the deck to get well shaken by the wind that tried to blow me from my perch. The picture I got is Fig. 3.

That night, I got out my tripod, took several shots by the light of the waning moon.

Fig. 4 was taken at 3 seconds, the lens being wide open at $f3.5$. It could have been less time as the picture was taken directly into the moon, and the lifeboat was silhouetted very strikingly. I had to do a lot of waiting because the ship was pitching heavily. First I arranged the picture in the viewfinder. I waited until the ship got into the smooth trough of a long swell. Then I could press the shutter for the time exposure. It was just my luck that this picture happened to be on one of

DAVE SCHERMAN GOT INTO PHOTOGRAPHY "BY ACCIDENT"

The story of the *Zamzam* episode is a variation of the Hollywood formula—photographer meets assignment, photographer loses assignment, photographer gets assignment—and even the happy ending has a curious moral twist to keep the customers from crying "sold!" as they leave the theatre.

The story of this event and his share in it is told here by Dave Scherman. I should like to say a few words about him which he is much too modest to write himself.

He obtained his first camera, a Contax, some three years ago by the merest accident. He had no intention of becoming a photographer. He came into possession of the camera because he wanted to help an old man who had just brought it from Germany.

Scherman was working in the promotion department of *Life Magazine* at that time and had successfully irritated himself into thinking that he was a flop. He was exactly 21 years old during this mood of despair.

All this is of course first-hand information. He occasionally dropped into my office and tried to convince me that opportunity in our current world had shrunk to a mere nothing. This was so entirely my own mood at the time that we hit it off rather well, chiefly, I imagine, because we had no official business relationship whatever. After he bought his camera he came and showed me his occasional prints. They were like all such prints—interesting only to the man who took them.

Perhaps you can imagine what it means trying to be a photographer on a magazine

where the best photo technicians in the country are employed. Well, Scherman tried it. His teachers were Otto Hagel, Hansel Mieth, Peter Stackpole and Carl Mydans.

It is my conviction that the clumsiest-feeling man in the whole world is a photo apprentice. Learning to drive a car or even a plane seems simple by comparison. The man with the tricky camera on an insecure tripod, his pockets full of films, filters and extra lenses is pathetic beyond all others. Such a creature, operating under the cold scrutiny of half a dozen experts, is a thumbnail portrait of Scherman when he began. Another thing, not only was Scherman green, the magazine itself was still in a formative stage and nobody was interested in the thwarted ambitions of the various employees.

Well, his light finally came out from under a bushel and they printed some of his pictures.

With the publication of those prints—(now so unsatisfactory in retrospect)—he was a man committed.

In the following years he did everything, and I mean everything. He toured the country in a mini-plane that cracked up a couple of times, he made altitude tests, he got fried in deserts, frozen on mountains and for some months even photographed social and political Washington.

When the *Zamzam* cracked up he was no longer waiting for his break. He was a member in good standing of an exclusive fraternity. On the *Zamzam* he simply proved that he belongs by right among the news camera elect of this astonishing century. . . .

—ALEXANDER KING.

the rolls I sneaked out.

At dawn, the following morning, I was jolted into wakefulness by a terrifying "WHAM" that shook the entire ship. In a few seconds there was another explosion, and then another. There was a crashing of wood, metal and glass.

I went for the "emergency bag" I had previously packed so carefully. Its con-

tents were strewn all over our cabin.

The Nazi raider *Tamesis* was systematically shelling our ship in the light of an early South Atlantic dawn. I was rummaging for my equipment and trying to discard things that would be superfluous in a lifeboat, like tennis rackets and neck ties.

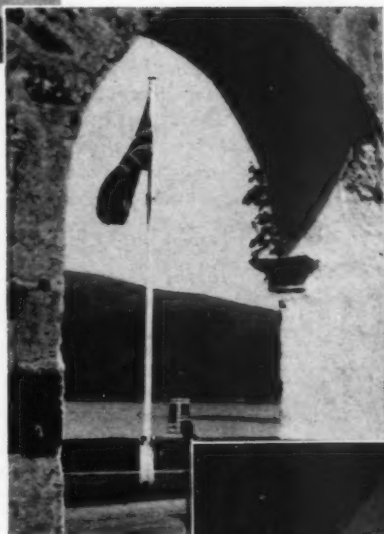
(Page 102, please)

THE LENS SEES ALL, ALAS!

By CLARENCE PONTING



↑ THE STATUE alone makes only an ordinary record shot. FIG. 1



→ HOW THE CAMERA saw the picture. FIG. 2

all the king's horses can't keep them off the negative. Unless you limit its impression to a single, pointed effect.

The statue (Fig. 1) looked imposing with its background of green, rumpling hills—to the eye. Through the arch (Fig. 2), the eye singles out the statue, but the camera lens buries it. So we made two prints, cut the statue out with a scissors, pasted it in position, and the result is Fig. 3. The lens needs a brain and, in this case, some manipulation to show it what to concentrate on.

THE MAN who didn't appreciate the water until his well ran dry, will not appreciate his eyes until he sees only pictures. The human eye, and brain, working together in a harmonious team, do more photographic "work" in the twinkling of an eye, than the camera dark-room expert can do in a day. That's why a scene that stirs you to think it is significant often becomes dull and pointless as a photograph. Your eye caught the essentials, and your brain sloughed off the miscellany. But your camera caught the whole darn works.

Your eye sees a thousand things, your brain singles out one. Your camera see a thousand things, and

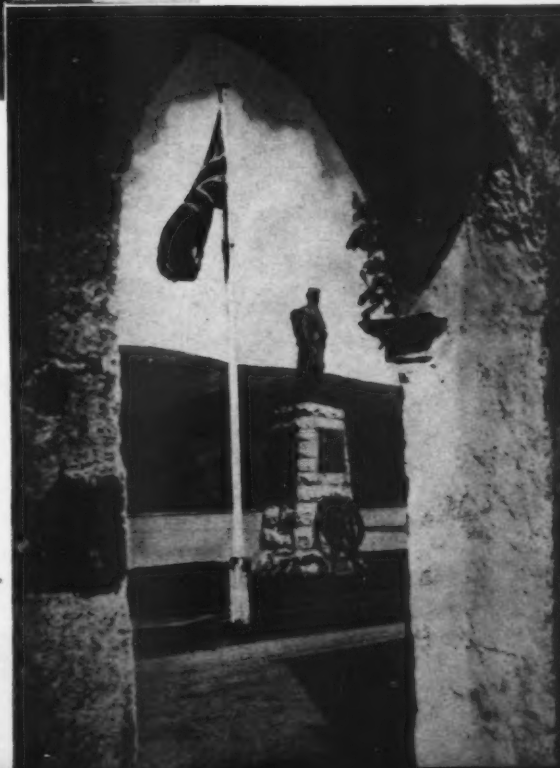


FIG. 3

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Ten Commandments OF P

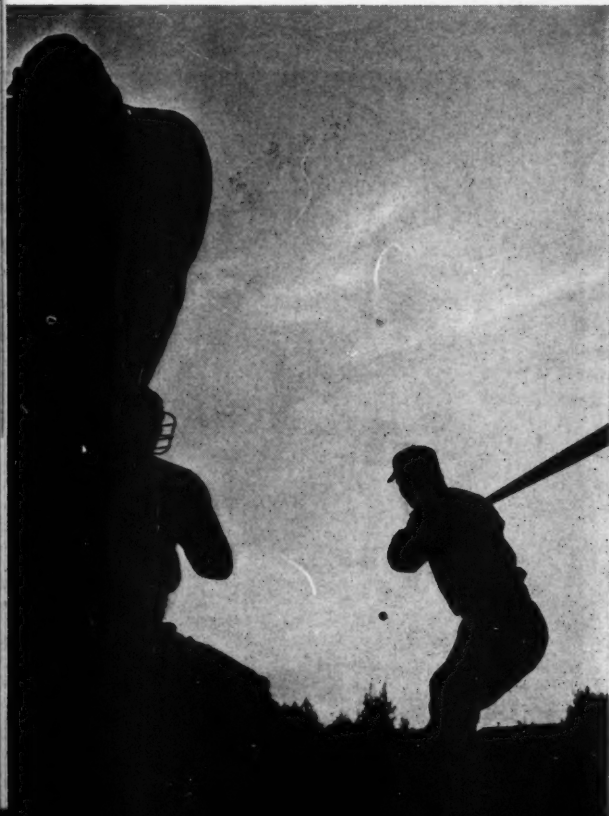
B Y A L E X A N D E R K I N G

Alexander King, in the past twenty years, has picked up 1,000,000 photographs, each time saying to himself "I hope we can use this one."

But for every time his eyes have lighted up at sight of a picture that could be purchased and published, there have been hundreds of pictures picked up and disappointedly dropped in the direction of the "reject basket." This high mortality rate is due not to deficient photography,

he feels, but to deficient knowledge of the picture-editing business.

Alex King was managing editor of *STAGE* magazine, editorial associate on *LIFE*, and before that, picture editor and art director for other magazines and newspapers. A pioneer in modern picture-journalism, the scope and variety of his experience make him uniquely well-equipped to tell amateur and professional photographers alike what editors do and do not want.



MIDNIGHT baseball in Alaska! The subject itself is so arresting, that excellent photography becomes obvious. Herbert Gehr, shooting from behind the umpire, found it easy to "stop" the baseball in midair at a shutter speed of 1/200 second, because the moving ball was in line with the camera. It was less easy to get the batter, catcher and umpire lined up so that the function of each is immediately apparent. Important details such as the silhouette of the catcher's wire mask and the white dot that separates him from the looming umpire, show the difference between an ordinary picture and a good one.

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PHOTOGRAPHY



TWO GIRLS posing calmly in a good light never catch an editor's attention. It is too easy; there are too many such pictures. Peter Stackpole, photographing in a speed boat off Catalina Island, California, caught two things that get attention: expression and action. The calmness of one bathing beauty is a perfect foil for the near-panic of the other one.

I HAVE often been asked to outline the scraps of advice I give to photographers who show me their pictures. They want to understand the expectations of photo editors. I have spent some time thinking about this problem, and I offer my suggestions in the form of ten commandments for photographers.

First: Tell a story in pictures. Very few camera men ever submit a coherent photo story. Picture editors invariably see hundreds of unrelated prints. If you wish to instantly attract attention, pick a subject which requires at least six prints and have these carry your story to a conclusion.

Second: If, for any reason, this is unfeasible, and you submit unrelated pictures you are urgently advised not to include:

- a. Closeups of heavy coils of rope.
- b. Perspired negroes with enlarged pores.

- c. Windblown sails billowing against a troubled sky.
- d. Leafless, tormented trees, with a desert background.
- e. Reflections (in water or in plateglass).
- f. Mothers holding children in Madonna-like postures.
- g. Cats nursing chickens.
- h. Nudes, diaphanously draped, and wind-blown on the beach.
- i. Anybody's baby, particularly your own.
- j. The insides or the outsides of flowers.
- k. Silver-haired ladies in a sunset glow.
- l. Corpses.

Third: Take your subjects from the realms of actual and turbulent life, such as:

- a. Main Street, in its various aspects. (not Broadway).
- b. Catastrophes and conflagrations as reflected in the faces of bystanders.
- c. Beauty parlors (barber shops).

THE

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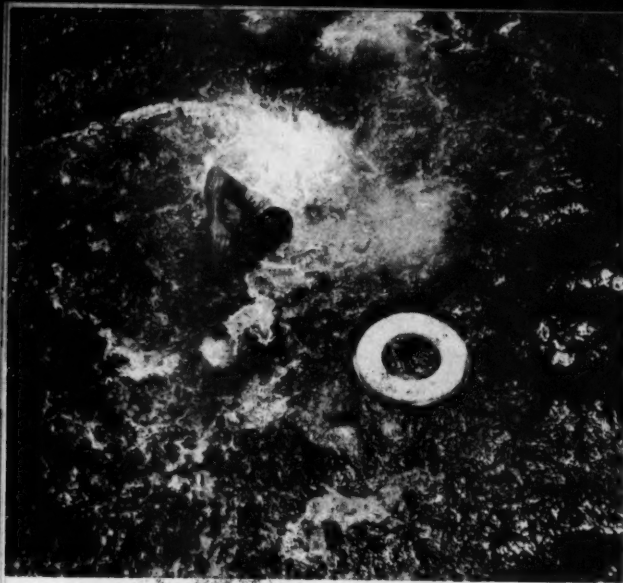
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THIS is a shot of a U. S. sailor swimming for a life ring during routine exercises in the Pacific ocean taken by Carl Mydans during a photographic assignment with the fleet. It is the sort of dramatic shot for which American news cameramen have become famous. As a part of a story-telling sequence, the art of action photography has possibilities as limitless as life itself.



HUMAN INTEREST pictures fail unless they arouse sympathy and affection for the subject pictured. Children and pets are at the top of the list. Hansel Mieth has taken advantage of this obviously appealing combination in this picture which was taken as part of a photo story about Chinese in the U. S.

d. Parties and sports.

or anything else along these lines which will exhibit your alertness and skill as an observer and reporter as well as your technical facility.

Four: Never send prints on arty, mottled papers. Effects so achieved are bound to be lost in reproduction.

Fifth: See that your pictures are flat and don't need mounting. Very few professionals ever mat their photographs when they submit them for editorial scrutiny.

Sixth: If your subject warrants it, always submit large pictures; 11 x 14 is good salesmanship.

Seventh: Don't write on the back of your pictures anything but the title. Give biographical information briefly in a separate letter.

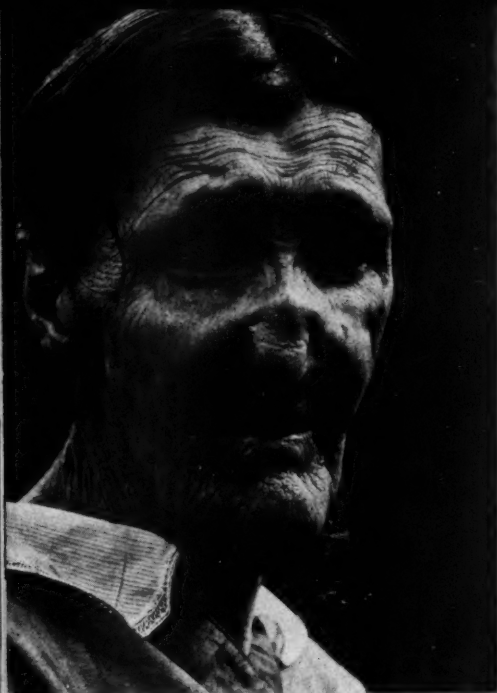
Eighth: If you submit a series, don't paste your prints into elaborate, home-made linen folders. Anything extraneous to the pictures themselves is disturbing unless it appears professional. The photo market is glutted with cheap, efficient scrap books which will serve your purpose much better.

Ninth: Submit the same print in several versions; horizontal, vertical and trimmed to give varying emphasis to your subject.

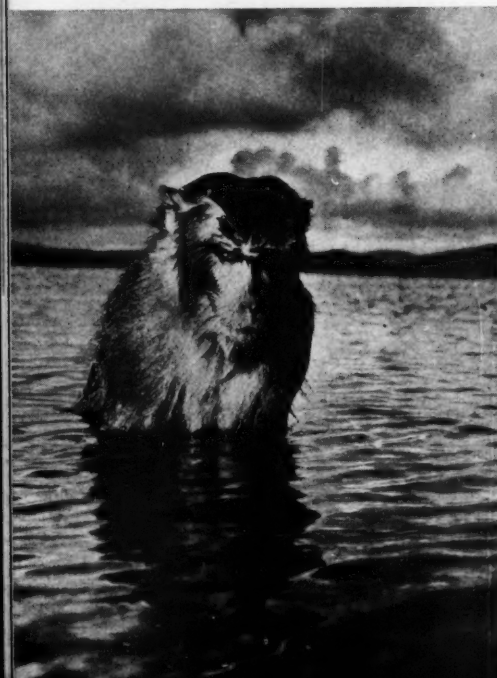
Tenth: Remember that a photo editor is only a man who sees much too many

"HERE'S something you have never seen before." These words always can be counted on to make a picture editor look up. Gjon Mili has been able to say this, not only by virtue of his high speed stroboscopic lights (1/30,000 second) but also by virtue of an artistic sense that is never satisfied by mere novelty. This is a great picture because Mili timed it to capture pose and expression, at 1/30,000 second just as systematically as he would have timed a simpler shot at 1/50 second.





HERE is a piece of documentation—a southern tenant farm woman broken by life's bitter circumstances—a 700 page novel, in one shot by Eliot Elisofon. The texture of the face weathered by toil should be reproduced in a print no smaller than 11 x 14 inches. Documentary photography is not "pretty" because life is not so.



photographs. Don't weary him with pictures which have nothing to recommend them excepting an anecdote which does not happen in the print. Your private life may be extremely amusing. It has value to the photo editor only if some reflection of its glamor can be seen in the pictures you submit. Remember that editors are not your enemies. They are constantly in search of capable camera practitioners and they cannot judge your talents on the strength of two or three prints.

● THESE GENERALIZATIONS are, of course, wholly inadequate in guiding photo enthusiasts who are still wrestling with the complexities of the dark room. We take for granted that thousands of skilful men would like to find a market for their wares whose salability is deferred because of minor misunderstandings. Since the emergence of the big photo news magazines, camera work throughout the world has undergone a great change in its motivation. Manufacturers of camera equipment have made fabulous improvements in keeping with the needs of these times. The past is cluttered with magnificent prints made under primitive conditions. You can hardly expect eulogistic outbursts because with better equipment you have done almost as well. You have other problems.

The high speed lens, the mobility of the small camera, vast advances in lighting and shutter speeds, improvements in plates and films, have opened a new territory for pictorial awareness. The world you live in has never before offered such contrasts and the camera is and will remain the greatest documentary vehicle in the hand of man.

If you bring to the editorial side of your
(Page 90, please)

← THIS MONKEY, like the old man of the sea, is the one monkey picture no one ever took before. Hence it is memorable. It was made by Hansel Mieth, and *Life* featured it in a full page, "The misanthrope," sitting in the sea to avoid his fellows, points a moral to humans who are unsocial in his fashion.

THIS HALLOWED shrine has been photographed thousands of times, but never with so great and somber a note of special significance for our present national state of mind. It is timely. "Tomb" is an expression for lifelessness, yet here it is full of life and meaning by virtue of the way it is photographed. David Scherman's photograph of the tomb of the unknown soldier has all the careful composition which he could not bestow on his pictures of the Zamsam's sinking reproduced at the beginning of this issue.



HERE RESTS IN
HONORED GLORY
AN AMERICAN
SOLDIER
KNOWN BUT TO



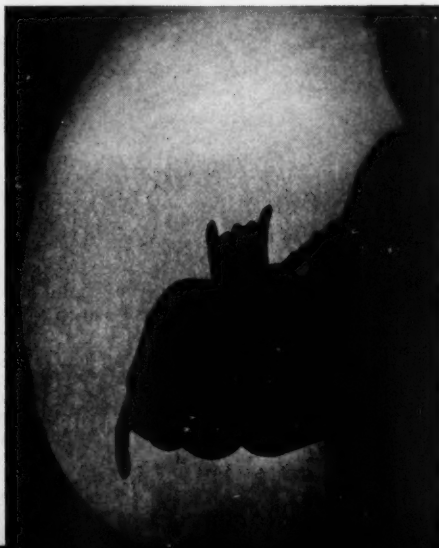
↑ **FINGERS**, casting photogenic shadows on a screen, invite you to take their pictures. The kitten's back is a pulled-down coat sleeve, creating "Nice Pussy" (lower left).

← **PAPER** cut-out heads on the agile wrists of Hilmar Pobel call forth a sigh for the good old magic lantern days. Hush! What is the couple at the window saying? "...Unhand me, villain!" shrieks the shrew, "I'm going back to mother."

GIVE A SHADOW SHOW

THE method of making a photographic shadow show is simple. Project a spotlight on a sheet. The finger waggler stands in the spotlight circle about three feet from the screen and starts his "act". Get behind the

sheet and snap the shadows on Super XX or Superpan Press film at about $f/3.5$, $1/25$ second. Beginner's fun is the easy wolf's head below. A slide projector or a large flashlight can be used instead of the spot.



DARKROOM SECTION

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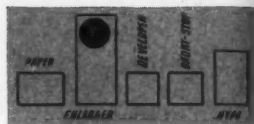
★ YOUR FIRST DARKROOM

BY PERCIVAL WILDE, A.R.P.S.

ALL amateurs, as the late C. Julius Caesar might remark were he with us today, are divided into three parts. There are those who press the button and let the drug-store do the rest; there are those who do their own developing and enlarging, frequently turning out work so outstanding that it is welcomed by the salons; and there are those who would like very much indeed to have a fling at photographic processing, but who think that the technique is difficult, dark-rooms expensive, and are held back by groundless fears.

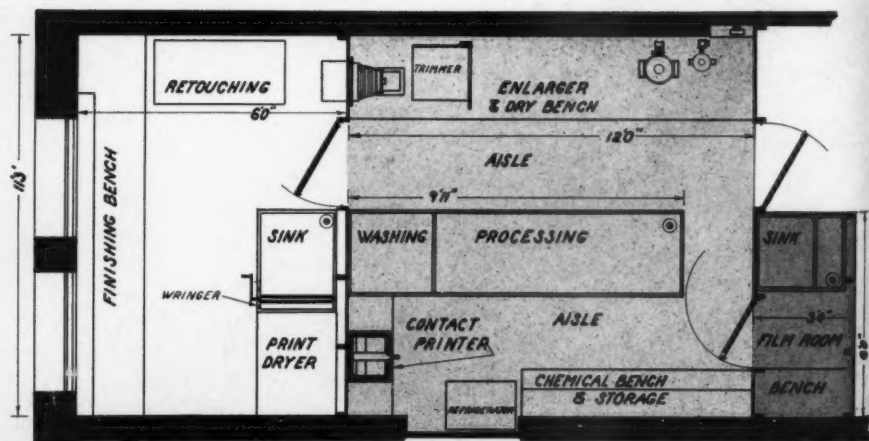
This article is addressed particularly to that third group, and its purpose is to explain how simply and how cheaply the amateur may have the pleasure of converting his exposed film into prints, thus expressing his personality, judgment, and

SIMPLEST DARKROOM



ANY room in the house becomes a printing "darkroom" after sundown, when an enlarger is set up with three trays for the solutions.

taste in a manner which is impossible when somebody else stands between him and his finished product. Granted that his output, at the beginning, is not likely to compare with that of more experienced workers, there is no reason why with intelligence, patience, and the ability to follow directions, he should not soon turn out satisfactory prints. He commences with a great advantage over the professional: The photo-finisher who spends



PROFESSIONAL darkroom is a far cry from the amateur's kitchen or spare room improvisation, but it shows general principles. Finishing room is in daylight.

THE PROCESSING room is illuminated by orange safelights. This enlarger bench has three enlargers. The processing sink, in center of room, contains developing trays, etc., accessible from either side.

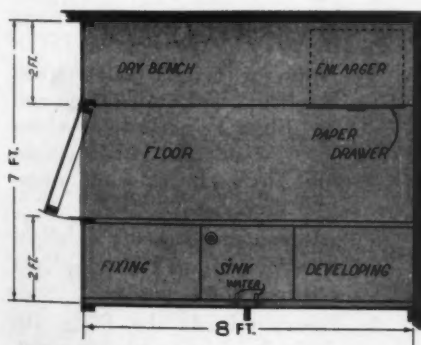
FILM room for developing and loading films is used in total darkness.

THE DELIGHTS AND PLEASURES OF MAKING YOUR OWN PRINTS CAN BE OBTAINED FOR AS LITTLE AS \$4 (PLUS ENLARGER) AND ANY AVAILABLE CORNER IN KITCHEN BEDROOM OR OTHER SPACE CAN BE USED.

hours on only a few pictures goes bankrupt; the amateur who does the same invests leisure time in self-expression. With increasing expertness, he will learn how to make really nice prints, and then, if he cares about it, he may expect checks for some of them; but from the start he knows the joy of creation, and satisfaction of accomplishing seeming miracles with his own hands.

Any Room Can Be Used. A professional darkroom, meaning by that a room which can be completely darkened at any hour, is indispensable to the commercial photographer, who must be able to retire into it frequently, there to load, unload, and develop films which may have been exposed only a few minutes earlier; but nearly all amateurs do their work at night, and the instant the sun sets there

(Page 85, please)



AMATEUR darkroom arrangement with "dry" and "wet" operations conducted on opposite sides. Dimensions may be varied to suit individual needs. The darkroom should be a comfortable, convenient place to work in, properly heated in winter, and well ventilated.



MINIMUM BUDGET FOR ENLARGING EQUIPMENT

2 trays, 4"x6" light weight stainless steel, 29c each	\$0.58
Vegetable dish and lid, 12"x8"x4", enamelware	.58
Graduate, 16 oz., shatterproof 60c, or glass	.24
Stirring spoon (better than a rod), plastic	.05
Funnel, plastic (may be purchased at the Dime store)	.10
Tongs, 2, preferably of different sizes and different materials	.25
Safelight, Brownie	.40
Paper, 2 doz. each, contrasts 2 and 3 (normal and medium), 4"x5", Velour Black DL, or Brovira Matt white, or Kodabromide N...	.80
Developer, 1 qt. Eastman D-72 or Agfa 125 or Defender D-55	.20
Acetic acid, 1 pound, 28%	.30
Acid hypo, 1 pound carton	.18
A liquid hardener may be added, per bottle (or a prepared fixing-hardening bath, such as F-R Fixol, or Marshall's Acid Fixer may be substituted for the two preceding items)	.27
TOTAL	\$3.95
Plus Enlarger	\$10.00

FILM DEVELOPING EQUIPMENT

"Daylight" tank	\$1.65 up
Thermometer	.25 up
2 film clips	.18
Developer, 1 qt. Agfa 17, or Defender 6-D, or Eastman 76	.20
(Film developers are listed at the end of this article.)	
Film short-stop hardener	.27
TOTAL	\$2.55

LESS THAN \$17 buys all necessary equipment for developing negatives and making enlargements. For larger budgets, more may be spent for the enlarger. It is a good investment.



WATCH

YOUR FILMS DEVELOPMENT PERMITS CORRECTING FOR EXPOSURE

INSPECTION DEVELOPMENT

BY JACK M M E L B

HOW WOULD you like to develop your films by inspection, using a bright yellow-green safelight, the same that is used while enlarging? Well-known pictorialists such as Dever Timmons and Adolf Fassbender swear by this.

Desensitizers are simple to use. If an already prepared solution is not preferred, small quantities of either pinakryptol green or yellow dyes can be dissolved in pure water. A 50-50 mixture of water and ethyl alcohol may be used to prevent bacterial decomposition of the dye solution.

To develop even fast films in bright safelight you need only to use a desensitizing agent. The best desensitizers are the pinakryptol green and pinakryptol yellow dyes obtainable through any photographic dealer. Solutions of these dyes are made up in water, and films are then bathed in them before developing. With certain developers (those not containing more than 15 grains of hydroquinone per liter) the green dye can be added directly to the developer. In general, it is best to use the desensitizers as a pre-bath.

For high speed orthochromatic and panchromatic films, pinakryptol yellow works best. One exception is Agfa Superpan Press film, for which the pinakryptol green is best.

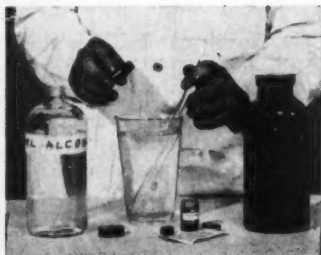
(Top of page) IN developing positive transparencies bright safelight is especially useful. Shown above is an actual photograph made during development. The exposure was made by the light of the safelight.

Any of the high speed films can be inspected under a bright yellow-green safelight, such as the Agfa No. 6 or the Eastman OA, with 10 to 15-watt lamp, providing the correct procedure is used. The following method is recommended:

1. Following directions supplied with the dyes, proper solutions are prepared.
2. The films to be developed are bathed for two minutes in complete darkness in the desensitizing solution, either the yellow or green.
3. The films are transferred to the developer, without rinsing, and are allowed to remain for two minutes.
4. Now the bright yellow-green safelight can be turned on and the films inspected for about 15 to 20 seconds. This is ample time to examine each negative thoroughly.
5. After inspection the safelight is turned off and development continued in darkness.
6. Every minute the films can again be inspected for short, say 10-second, intervals until developments is complete.

Roll film negatives may be cut apart with a scissors during development so as
(Page 89, please)

INSPECTING films as they develop permits increasing or decreasing development time to compensate for various types of subjects and for errors in exposure. Underexposed negatives can often be saved by increased development.



**DESENSITIZERS ARE
SIMPLE TO USE**

THESE TWO portraits are from negatives identically **UNDER-**exposed. The top negative was given normal development. Lower negative was overdeveloped. Note additional detail brought out in the subject's hair and dress.





WATCH

YOUR FILMS DEVELOPMENT PERMITS CORRECTING FOR EXPOSURE

INSPECTION DEVELOPMENT

BY JACK M M E L B

HOW WOULD you like to develop your films by inspection, using a bright yellow-green safelight, the same that is used while enlarging? Well-known pictorialists such as Dever Timmons and Adolf Fassbender swear by this.

Desensitizers are simple to use. If an already prepared solution is not preferred, small quantities of either pinakryptol green or yellow dyes can be dissolved in pure water. A 50-50 mixture of water and ethyl alcohol may be used to prevent bacterial decomposition of the dye solution.

To develop even fast films in bright safelight you need only to use a desensitizing agent. The best desensitizers are the pinakryptol green and pinakryptol yellow dyes obtainable through any photographic dealer. Solutions of these dyes are made up in water, and films are then bathed in them before developing. With certain developers (those not containing more than 15 grains of hydroquinone per liter) the green dye can be added directly to the developer. In general, it is best to use the desensitizers as a pre-bath.

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DODGING ALLOWS FREEDOM

FROM THE WINDING course of a lazy stream to the delicate tendrils of the honeysuckle, nature presents her most graceful forms in rhythmic curves. Photographers long ago found the beauty of such effects and use them to enhance their pictures. So, also, in dodging pictures, if we think in terms of "curving patterns" the final result contains that ex-

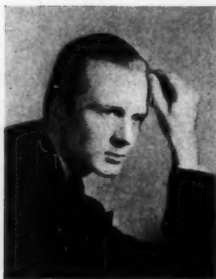
tra quality known as eye appeal.

The favorite portrait of Jack Buckmaster, famous mimic and stage star, (Fig. 3) required the added touch of dodging to attain its striking quality.

The dodging following the general rhythm of the composition. Taking almost the form of a circle, the dodge followed the direction of the white dotted line drawn on Fig. 2.

A lightweight flexible cardboard is used to hold back the light. This is curved to produce the desired rhythm in the shadow cast on the enlarging paper. During the printing exposure, the card is kept in constant rotation around this circle.

In the case of Linda Watkin's favorite



FACE and white background blend confusingly in the straight print (above left). FIG. 1



A curved card (above right) is held over the center of the paper while the uncovered parts receive more exposure. FIG. 2

→
IN the dodged print, all the distracting light areas seen in the original have been toned down until they cannot distract attention from the finely chiseled features of the subject. FIG. 3



REPLAY FOR ARTISTIC SENSE

BY A V E R Y S L A C K

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portrait (Fig. 6), the mood of the star was so fleeting that to capture it without a change left no opportunity to re-arrange the hands (Fig. 4). Consequently, they had to be subdued in printing.

Two curving shapes were required to dodge this picture. First, the S-curve drawn on the lower left of the print was used to subdue the hands, leaving only the gracefully curving fingers. Then the card was curved in an arc, and the pattern behind the head was darkened in tone (Fig. 5).

The hands can be used to "dodge" but I prefer the lightweight sheet of cardboard, that comes in every package of

projection paper. It makes a very flexible medium with which to work. It can be twisted and turned in many different ways to secure the effect desired. I keep the board moving continually in a rotating motion, and stop down the enlarger lens to obtain sufficient exposure time in which to work carefully for a pre-determined effect.



IN the original study (above left) the hands are overemphasized. Dodging the print is the simplest solution. FIG. 4

SHAPING the cardboard dodge in the form of an S-curve as indicated in the line drawn on the print (above right) produces an artistic result. FIG. 5



ONLY the curving fingers remain in the finished portrait. The tone of the patterned background was also subdued by printing with the card shaped in an arc above the head. FIG. 6



ADD THE BACKGROUND

THE PAGAN GREEKS lost their kingdom before they had a chance to name a God of Photography—but this capricious, un-named Spirit continues to fill out his day by puffing the clouds away when you're all set for a Hawkins landscape. When those dreamy, fleecy clouds vanish just as your shutter is cocked, spare the blasphemy and repair to your darkroom for solace. Clouds and other fancy backgrounds may be tailor-made in that little room you call your own.

The essentials are patience and a file of background cloud negatives. The first attempt will probably scream "fake," but

after a few practice shots, the results will begin to look like the "McCoy."

Fig. 1 was made without a filter and the dead black sky serves as its own mask. Since the foreground subjects are in silhouette, combining this shot with Figs. 3 and 5, presents no masking problems.

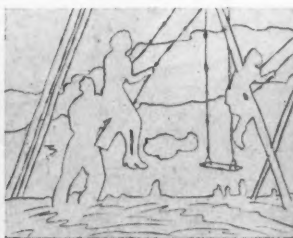
First focus the foreground negative on a sheet of plain white paper and make a guide drawing of the principal objects (Fig. 2). Make a test exposure of this negative, and note the correct exposure.

Then focus the background negative on the guide sketch and decide on the position of the cloud areas. Make a test ex-

(Page 78, please)



MADE without a filter, a silhouette picture is ideal for adding clouds or foliage.
FIG. 1



OUTLINE the main subjects on white paper on the easel. Plan the background on this sketch.
FIG. 2

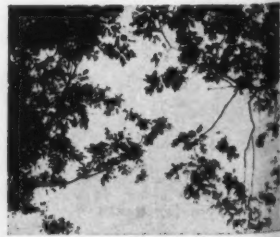


SELECT a background negative and project it on the sketch. Outline its main areas on the drawing.
FIG. 3



PRINT the cloud negative first, then the silhouette on the same sheet of enlarging paper.
FIG. 4

NOW let's see what a foliage shot like this can do to improve the picture still more.
FIG. 5



IN THE DARKROOM!

B Y T R A C Y D I E R S

THE blank sky in the foliage negative makes it easy to combine with the silhouette. Compared with Fig. 1, this result is much more pleasing, but the clouds will add still more.

FIG. 6



FIRST print the foliage negative, then in correct position, print the clouds on the same sheet, and follow this with the silhouette of the girls in the swing. The result, a dramatic picture of "Swing Time" at sunset.

FIG. 7





HERE the problem is a little different. First the blurred and unwanted background must be removed. Then a new and more pleasing background effect is added to complete the picture.

FIG. 8

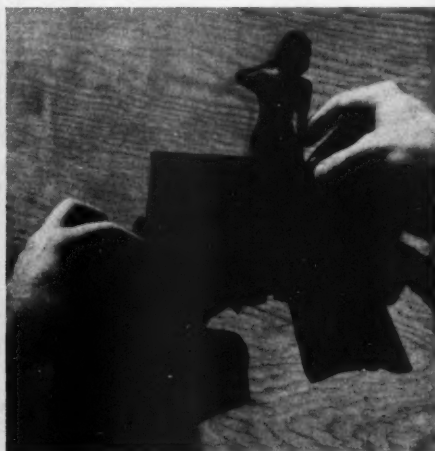


PAINT around the figure with negative opaque, a reddish water color that is easily applied with a small brush. The result is a clear white background. Make a test strip of this opaqued negative to determine exact printing time. FIG. 9



SELECT, from your files, a cloud study that will go well with the main subject. In this case, the shot of the sun just breaking through heavy clouds is well suited to the partly side-lighted figure.

FIG. 10



NEXT cut out a dodge for the main figure and the foreground to be included in the final print. The easiest way is to enlarge this figure the exact size it will be in the final print. Use single weight paper, and after it is dry, paste a thin sheet of opaque black paper on the back. Then with sharp scissors or a razor blade carefully cut out the main figure.

FIG. 11

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MARK one end of the printing paper "top" on the back, place the cut-out figure in correct position, and print the cloud background. If developed the result would look like this.

FIG. 12



REMOVE the paper from the easel, place the foreground negative in position, carefully position the negative image on your guide sketch. Then replace with the printing paper and give the required exposure.

FIG 13

IF the two images are not in exact "register" the effect will be similar to Fig. 13. However, if you place the main figure in the exact position indicated on the sketch, the result is a perfect combination print.

FIG. 14



NO. 100
NO. 100
NO. 100
NO. 100
NO. 100
NO. 100

SPOTTING

FINISHES THE PRINT

BY TRACY DIERS



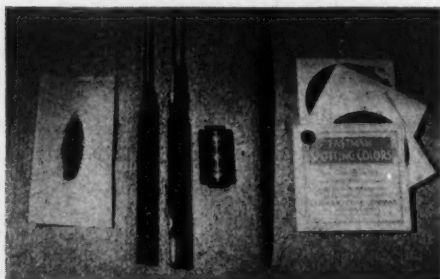
1. SPOTS on prints range from minute pinholes and faint wavy lines of lint to blotches nearly as bad as this "polka-dot" effect. In a finished print these blemishes will be concealed by pencil or paint.



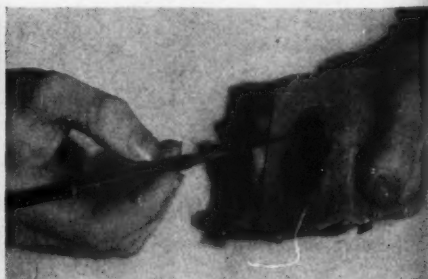
2. COLORS for spotting are applied with a small (No. 0 or No. 1) red sable brush. A tone several shades lighter than the surrounding area is applied, allowed to dry and gone over several times until the spot is covered.



3. ON rough or matte surfaced papers a long, sharp-pointed pencil is used to fill in faint lint lines, tiny dust specks, etc. Not adapted for use on glossy prints, the pencil is the easiest spotting method for rough surfaces.



4. MATERIALS for spotting prints include (left to right) fine sandpaper for sharpening pencil, retouching pencil (H or 2H hardness), or a holder for long retouching leads, razor blade for etching, spotting brush, and a set of spotting water colors on celluloid squares.



5. TO produce a fine point for spotting thin lines and small spots, lay the lead on the sandpaper and rotate it lightly, tapering toward the point. Then hold the point in light contact with the sandpaper at the angle shown above and twirl between the fingers.

IN THE WASH, prints look so perfect that we are inclined to believe all our painstaking care in enlarging, dodging and developing is not in vain.

But dry the prints and every pinhole and lint-line suddenly appears. Such imperfections are not seen in the work of salon exhibitors or professionals. They spot their prints, and the greater the degree of enlargement, the more necessary spotting becomes.

However, it's easy, and the equipment costs less than a dollar. A small red sable brush with a really good point, a set of spotting water colors, a sharp new razor

blade, and a retouching pencil are the essentials. A magnifying glass from the ten-cent store will make it easier to see what you're doing.

Practice, first of all, on some old prints on matte or rough paper. Use the pencil to blend over some light area that doesn't look quite right. With the razor blade, etch away at some dark specks. Work carefully to get the feel. One sharp gash and you'll be clear through the gelatin, and the print's done for.

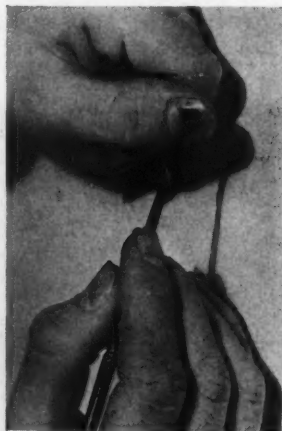
The pictures, beginning with No. 1 on the preceding page show how easy it is to spot your prints.



6. EXTRA catchlights in the eyes detract from the effect of the finished portrait. Although sometimes unavoidable when a complicated lighting arrangement is used, these catchlights are removed with pencil or brush.



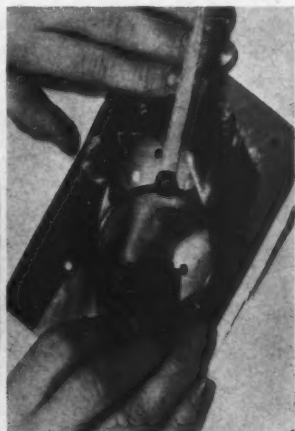
7. SELECT the catchlight that gives the eyes a normal appearance, and carefully touch up the other spots until they blend with the eye. Use a light spotting color and apply several layers, until the spots are concealed.



8. A THUMBNAIL makes a convenient palette. Pick up some color from the celluloid and apply it to the nail. Dip the brush in water again, shake excess moisture from it and take a little color from the nail onto the brush point.



9. A READING glass held a few inches above the print makes it easy to find and work on the smaller spots and lint marks. Keep the brush pointed so that the color is placed exactly where intended.



10. DARK spots, resulting from holes or scratches in the negative, are removed with a sharp razor blade. The gelatin and its unwanted deposit of black silver are gradually shaved away until the flaw disappears.

TROUBLE-SHOOTING

DEFECTS IN NEGATIVES AND PRINTS --HOW TO RECOGNIZE AND CORRECT THEM

B Y R A L P H H A B U R T O N

WHEN WE TURN out a perfect *negative*, we reach the home stretch on the road to perfect prints. The twenty-one hobgoblins illustrated here still ambush us along the way. If we but recognize them, that's half the battle. In this article is a special trick for knocking out each one.

1. Dust Spots. Dust or grit on the negative or glass negative holder leaves white spots on the print. (If the dust had been in the camera, the print would have *black spots*.) Clean the negative holder or use a glassless one. Brush the negative with a soft camel's-hair brush and make

another print. Or spot the print as described on page 38. If gentle brushing fails to remove the dust, clean the negative with carbon tetra-chloride. To remove grit imbedded in the negative when it was wet, resoak the negative and gently rub the particles off with wet cotton.

2. Enlarger Vibration. The entire picture is unsharp, but points such as the dot in the man's collar become short lines. Cure: Brace the enlarger so that it won't vibrate, or wait until the enlarger stops shaking before making the exposure.

3. Out of Focus. Substitute an unquestionably sharp negative or focusing



1. DUST SPOTS



2. ENLARGER VIBRATION



3. OUT OF FOCUS

WHAT'S WRONG WITH THESE PRINTS?



4. PAPER BULGE



5. LIGHT SCATTER



6. DARKROOM FOG

strip. Focus with the lens wide open, and then stop the lens down one or two apertures or more. Focusing may also be done with an old dense negative on which several sharp white scratches have been cut.

4. Paper Bulge causes some portions of the print to be sharp while others are unsharp. Unless your paper is absolutely flat an easel is indispensable. Even with an easel to grip the edges, make certain that the center does not bulge upward.

5. Light Scatter while enlarging causes a general graying and decrease in contrast. It does not extend into the margins of the print because these are protected by the paper holder. It is due to stray light from the enlarger. It can be eliminated by masking the negative down to the portion

actually used. The enlarger parts between the film and the lens should be non-reflecting. If your easel is white it can be masked by slipping a piece of black paper under your printing paper before exposing.

6. Darkroom Fog results in decreased contrast and graying of the paper including the borders. (Bend the print over to compare the whiteness of the margin with that of the back.) It can be caused by light leaks in the darkroom or unsafe safelights. If the safelight causing the trouble is so placed as to fog the print only when it is in the easel, the margins will remain clear. Forcing development, using old paper, or stale developer also may produce fog.



7. UNCLEAN LENS



8. "HOT SPOTS"



9. ENLARGER OUT OF LINE



10. INADEQUATE LENS COVERAGE



11. EASEL SHADOW



12. ELECTRIC CORD SHADOW

7. Unclean Lens causes not only a graying over the print, but also results in a slight diffusion. Fortunately, this is easily detected by observing the lens while the enlarger is turned on.

8. "Hot Spots" are caused by uneven light distribution in the enlarger and usually result in the central portion of the print being burnt up. Bad distribution of light results when the enlarger bulb is too close to the film; when ground glass is used when opal glass should be used; by using plain ground glass (in some enlargers) instead of a special type which is heavier in the center.

9. Enlarger Out of Line. Improper alignment of the paper, lens and negative causes focus to fall off on each side of the point of sharpest focus. Note that lower

part of picture is sharp, top part out of focus. The paper and negative should be parallel to each other and perpendicular to the axis of the lens. Sagging of the central post of the enlarger can cause this trouble.

10. Inadequate Lens Coverage causes a vignetting effect in which the edges fall off, both in intensity and sharpness. An enlarging lens for 35mm. film, for example, lacks the covering power required for a 2 1/4 x 2 1/4-inch negative. Cure: Use an enlarger lens having a focal length as long as the regular lens for your camera.

11. Easel Shadow is a type of cut-off, usually of one corner, found only when the easel is not centered under the lens. It is most frequently found when only an outer section of the film is being enlarged.



13. IMAGE REVERSED



14. PAPER REVERSED



15. ABRASION MARKS



16. UNEVEN DEVELOPMENT



17. AIR BELLS



18. NEWTON RINGS

to prevent this, slide the film over in the carrier so that the portion of the negative being enlarged is approximately centered in the negative carrier.

12. Electric Cord Shadow results when the connecting cord is allowed to dangle over the paper during exposure. The resulting shadow cast across the paper prints as a blurred white line.

13. Image Reversed. When the negative is inserted in the carrier upside down, the print is reversed from right to left. The rule in printing is "emulsion to emulsion," unless a reversed or "fopped" print is desired.

14. Paper Reversed. This mistake also produces a reversed image, but since it is caused by putting the paper in the easel upside down and printing through

the paper base, the image is much weaker. It is slightly diffused and shows the paper grain.

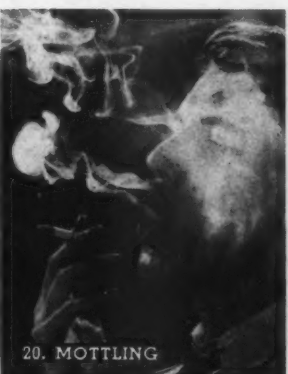
15. Abrasion Marks are dark lines resembling scratches. They are caused by scratching the paper surface before it is put in the developer, or before the image is completely developed. Carelessness in handling the paper in the tray with print tongs can cause these marks.

16. Uneven Development results in streaks of light and dark areas on the print and is caused by not getting the paper under the developer evenly. It is more common in contact prints than in enlargements. It is minimized when full development is given.

17. Air Bells in the developer cause
(Page 76, please)



19. STAINS



20. MOTTLING



21. IMPERFECT FERRO-TYPING

WHEN examining a defective negative, the first question usually is, "what caused it?" It might have been produced in the camera or in the processing. The first four flaws listed on the following page are produced in the camera. The remaining dozen illustrated here are the result of darkroom accidents.

1. Dust Specks on the film at the time of exposure leave clear spaces the size and shape of the dust particles. If your camera interior and your film holders are clean, and if you load the film in a dust-free space, you'll never have this trouble. The only cure is retouching on the negative or print.

2. Track Scratches. Scratches parallel to the sides of the negative, either continuous or broken, are caused in the camera by grit or rough spots in the path of the film when it is advanced from one exposure to the next. Clean your camera and smooth off the rough spots. If the scratch is only on the surface, the negative may be printed wet, with the scratched side in contact with the glass plate of the negative holder. Carbon tetrachloride or glycerine can be used for wetting.

3. Collapsed Bellows. Vignetted edges of the film, with clear unexposed areas, may be caused by a camera bellows that has not opened properly or is sagging. This is more likely to happen at the top of the picture. The bottom of the bellows affects the top of the picture, and the punched-in bellows at that point would not be easily noticed. There is no cure for such a fault, except trimming. If this happens to you, better take a good look at the bellows next time you open your camera for a shot.

4. Camera Fog differs from darkroom fog (No. 5) in that the film edges remain clear. Very often the fog is in streaks. The direction of these streaks gives a clue as to their source. Inspect the camera carefully, particularly in the bellows and the light traps at the back. Sometimes careful dodging will produce a good print from such negatives.

5. Darkroom Fog reveals itself by an

overall graying of the negative. This is most noticeable in the thinner portions. It can be caused by improper developer or, more commonly, by unsafe light in the darkroom. Check your darkroom for light leaks or unsafe safelights. If the fog is uniform, a more contrasty paper will enable the negative to be printed. The negative can sometimes be improved by reduction in a Ferricyanide-Hypo formula, such as Farmer's Reducer.

6. Reversal. In rare cases you will find this surprising phenomenon in which a positive instead of a negative image appears. The edges of the film are dark. This is caused by the negative being light struck after development has started. In some cases only the shadow portions are reversed. It all depends on how far development had gone before the negative was light struck, and how strong the light was. If reversal is complete, a negative can be made by contact from the original, otherwise little can be done.

7. Improper Loading. A clear space running crosswise of a roll film is often caused by improper loading of a developing reel. In such cases one turn of film has slipped the track and come in contact with the next, preventing developer from reaching it. No cure.

8. Development Streaks are characterized by areas of different densities and contrasts, with definite lines of separation. They are caused by failure to get the negative into the developing solution quickly and smoothly enough. There is no cure.

9. Air Bells, which form during development, result in clear or underdeveloped spaces, either separated or clustered in soap-bubble style. This is caused by frothy exhausted developer, usually overagitated in a shallow tray. Agitate *after* the film is under the developer—not before. Bad cases are incurable, mild cases have little effect at some times, depending on the subject matter.

10. Development Scratches show as clear, often irregular, lines with a dark edge on one or both sides where the gelatin is folded over. Since this is a surface

WHAT'S WRONG WITH THESE NEGATIVES



1. DUST SPECKS



2. TRACK SCRATCHES



3. COLLAPSED BELLWS



4. CAMERA FOG



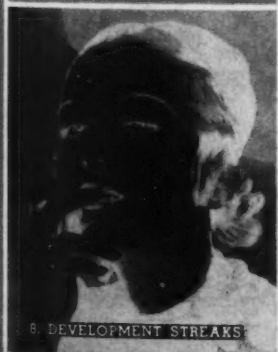
5. DARKROOM FOG



6. REVERSAL



7. IMPROPER LOADING



8. DEVELOPMENT STREAKS



9. AIR BELLS



10. DEVELOPMENT SCRATCHES



11. FRILL



12. RETICULATION



13. DEVELOPER MARK

defect, it can be recognized by looking at, rather than through, the surface of the negative. Don't try to develop too many cut films in a tray, particularly if your fingernails are long. The face of the film is for the image and not fingers. Once in a while it is possible to ease the fold back in place while the negative is still wet, thereby minimizing the scratch.

11. Frill. Frilled edges are indicated by a wavy appearance of the emulsion near the edge, the outline sometimes conforming to finger prints. They are caused by the gelatin separating from the film base due to over-warm solutions. Frill is often aggravated by improper hardening. In many cases reticulation (No. 12) accompanies this fault. If you are not able to cool your developer, at least avoid the use of the extremely alkaline variety, such as high-speed press developers and high

contrast developers in warm weather. There is no generally satisfactory cure.

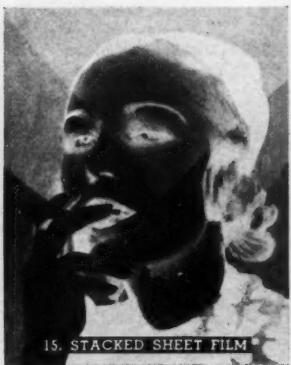
12. Reticulation. These patterns are in relief on the surface of the gelatin and are therefore easily recognized. They are caused by swelling and straining of the gelatin from processing in solutions that are too warm. Warm wash water or hypo will seldom cause this defect, if the hypo is capable of good hardening action. There is no cure, but mild cases may not seriously affect the printing quality. If reticulation is extreme, change your name to Powell or call yourself a pictorialist.

13. Developer Mark. Black finger prints on a negative are caused by developer on the fingers. The film was touched on the image surface during loading or unloading, or at some other time before development. Avoid touching the face of

(Page 76, please)



14. HYPO MARK



15. STACKED SHEET FILM



16. DRYING MARKS

WASH

PRINTS IF THEY ARE WORTH KEEPING

BY JACK ECKERT

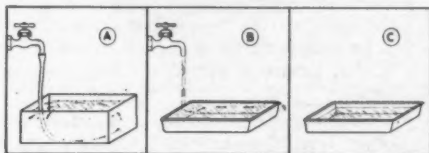
YOU CAN'T tell by looking at a man whether he followed mother's instructions to wash well behind the ears when he was a boy.

It's different with pictures. Inadequate

Hypo, Used

by looking at it. And skipping or slighting the washing will spoil the print in the future—tomorrow, next month, or next year. If prints or negatives are to be subjected to any after treatment such as toning, intensification, or reduction, the presence of hypo shows up *immediately*. Degrading of the tone—loss of 'snap'—staining of highlights—bleaching of the image—any or all of these will result from leaving hypo in prints.

The following rules will help you to make permanent prints that will be as



MECHANICAL washing, as in "A" above, is the best method if prints are kept separated. Merely placing tray under faucet, as in "B," is a common make-shift method, never satisfactory. Frequent changes of water in a tray, "C," with prints thoroughly separated each time the water is changed, is much better.

beautiful in the years to come as they are today.

(1) Wash water should be between 65°F. and 80°F. Colder water will not permit efficient washing as the gelatin becomes rigid and no length of time in cold water will wash out dissolved chemicals from the gelatin layer.

(2) Single weight paper should be washed thirty minutes, double weight paper one hour. This is an old rule, but a good one, and the times given are minimum.

(Page 91, please)

How will your prints look a few years from now? Like the faded, washed-out, yellowed print (below left) which was improperly washed. Or like the print at right, still rich in tone and unfaded because it was well washed?



NEAT LABELS on bottles and chemical containers assure speedy and accurate location of the desired solution or chemical. Mix-ups, when replacing a stock solution, are also minimized. In addition, the appearance of the darkroom bottle shelf is greatly improved.

Labels for solutions used in the average darkrooms, as well for special formulas, are reproduced on these two pages. Simply cut them out and paste on the corresponding container.

To waterproof the paper, saturate with a coat of clear lacquer or varnish before pasting on the bottles.

To prevent the printing on the back of the labels from showing through, when they are pasted on clear glass bottles, paint the backs with black India ink. Brown bottles usually give no trouble since the light passing through them is dimmer.

There are several ways of pasting the label on glass:

(1) Trim the label at the ruled lines and use a 1 x 3½" strip of transparent Scotch cellulose tape over it. The tape also protects the label from stains and moisture.

(2) Use a latex rubber cement such as Goodrich Tex Glue, or the Liquid Thread sold in ten cent stores. This sticks the paper tightly to the glass, yet permits the label to be peeled off cleanly.

(3) A gum adhesive, similar to that used on postage stamps, can also be applied to the labels. One formula for this is as follows:

Starch	10 grains
Gum Arabic	10 grains
Sugar	40 grains

Add water until the desired spreading consistency is produced.

To mix, dissolve the gum arabic in a little water, add the sugar, and finally the starch. Boil until the starch dissolves, and then thin as required. Spread evenly on label, and dry.

To apply label, wet as you would a postage stamp.

Farmer's Reducer Sol. II

Ferrotypes Wax

relief on the surface of the gelatin and therefore easily recognized. They are used by swelling and straining of the gelatin from processing in solutions that too warm. Warm wash water or hypo

Hand-Stain Remover

Hardener Chrome-Alum

Hardener Stock

Hypo Eliminator

Hypo, New

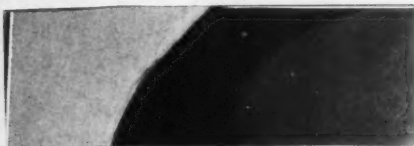
Acetic Acid, 28%

Farmer's Reducer Sol. I

PHOTO DATA

CLIP SHEET FOR PERMANENT REFERENCE

MINICAM
PHOTOGRAPHY



Print Developer

Hypo Test Solution

Reducer
Cutting

Hypo, Used

Short Stop

Intensifier
Negative

Tray Cleaner

NEGATIVE
Clearing Solution

Two-Tray Developer
Contrast

Negative Developer

Two-Tray Developer
Soft

Negative Developer
Used

Wash-Water Test
Solution

Print Developer
Stock

Water
Distilled

IT'S BETTER WITH MAKE-UP

Farmer's Reducer
Sol. II

WRITTEN BY
ILLUSTRATIONS BY FRED



OUR glamorous, but texture-revealing, spotlight betrays the blemish on every beauty; so make-up becomes the photographer's balm. FIG. 1



THE STORY OF make-up is ageless, and the fine thread of it runs back to the first man who, seeing himself in a still forest pool, decided to improve on the reflection. Long before Eurasian slaves raised the temples of Babylon, man knew the excitement that touched his fellow hunters when smeared with red earth and white chalk.

Every culture has its own make-up technique. Queen Shub-ad of Ur, five thousand years ago, carried a tiny filigree gold vanity case no larger than her finger. It held a scoop for rouge, a metal stick for training cuticle and a dainty pair of tweezers for shaping the eyebrows. Poppaea and the other notorious beauties of Rome and Pompeii enhanced their loveliness with heavy coats of lead carbonate, chalk and red lead. It was the "fashion."

Five thousand years are as nothing to the photographer searching for methods to banish a wart or puff a sagging cheek. Today's cosmetics are but refinements of pomades and powders the ancients used.

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FIG. 2

A BILLION dollars worth of patent medicines have been sold on the simple, rustic formula of "before" and "after." The pictures on this and the previous page use it in a more scientific demonstration. Above is Miss R.

professional model for California's crack Art Center School. "after" Fred Archer's pomades and unguents were smoothed in place. Fig. 1, believe it or not, is Miss R. "before." This article tells how he did it.



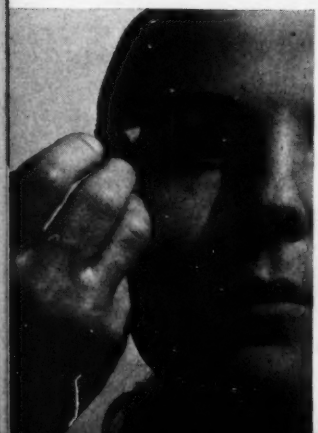
THE foundation make-up is made in two forms, Oil Base and Pan-Cake. A soft, moist sponge is used to apply and blend the Pan-Cake foundation into a thin, even coating over the face and throat. This gives the skin a uniform photographic natural tan.

FIG. 3



OIL-BASE foundation make-up is simple to apply. A little goes a long way, so pour only a small amount into palm of your hand and work it out evenly on the face and neck with your fingers.

FIG. 4



A dark brown eyebrow pencil is dark enough for any subject. Pencil from the inner end of the brow. Use short strokes and follow the natural contour of the eyebrow. Next brush the brows against the natural direction in which the hair grows, and then gently back into place. This removes the unnatural look, so often seen.

FIG. 5

Make-up's basic principles would be as familiar to Queen Shub-ad as they are to us: (1) to conceal freckles, tiny wrinkles, etc., with a foundation cosmetic; (2) to shape the eyebrows, eyes, and lips with special colors.

● **THERE ARE GOOD** reasons for photographers to follow Hollywood's lead in "retouching the subject" instead of the negative. Because the camera is uncompromisingly frank, it picks up the imperfections we fail to see. The model's dimpled fetching smile, keeps us from noticing her thin lips and irregular brows. But the camera is never bemused by one feature and indifferent to another (Fig. 1).

Through make-up the unflattering features are blended out (Fig. 2). How is it done? By selection. You develop a genius for make-up by observing the characteristics that form a pleasing personality. You emphasize the model's lips with a naturally graceful curve and banish the premature wrinkle at the corner of her mouth. *Vanitas vanitatum!* Experimentation inspires your instinct for singling out an effect that can be gained through make-up. But where do we begin? And how? The method of applying make-up consists of three main operations:

- (1) Applying the base or foundation.
- (2) Making up the eyes.
- (3) Making up the lips.

● **LET'S TUCK** A towel around the obliging neck of a girl friend and smear the base or foundation gently but firmly

over the face and neck. Either oil-base or "Pan-Cake" foundation may be used. First, though, remove all traces of street make-up with cleansing cream. It may take soap and water to remove the indelible type of lip stick, but it is very important that the face be thoroughly cleaned. Wipe off all cream with cleansing tissue.

The modern photographer has make-up that is easy to work with. It smooths out and conceals minor skin blemishes without destroying the normal textures and halftones.

If Pan-Cake make-up is used as the foundation, apply it with a small, soft sponge moistened in water (Fig. 3). Spread this make-up smoothly and very thin. With a soft paper towel you can smooth out the foundation color before the moisture has evaporated. If desired, go over the make-up with a moist sponge. The result: the skin has a photographic natural tan monotone color.

If you are using a liquid oil-base make-up, pour a very little in the palm of the hand and with the fingers of the other hand apply a few dabs on the forehead, nose, cheeks, chin and neck (Fig. 4). If the subject is wearing a low cut gown carry the make-up down to the dress line while blending these dabs of color to an even coating with the fingers. If at this point we have too much base, blot it off with cleansing tissue. Be sure to *blot*—do not rub.

Next you make up the eyebrows with an eyebrow pencil, carefully shaping the brow (Fig. 5). The eye shadow,

EYE SHADOW is applied next. A brown color is best for black and white pictures. It may be applied with either a finger tip or a brush.

FIG. 6



BLEND the eyeshadow upward toward the eyebrow with the tip of the finger. Do not bring the shadowing too close to the nose, or it will make the eyes appear too close together. FIG. 7



MASCARA, applied lightly with a small brush, emphasizes the natural eye lashes. Raise the upper lid and gently brush the color onto the lashes. In most cases, it is best to allow the subject to complete this part of the make-up herself. FIG. 8





LIPS are made up last. The professional make-up artist uses a brush. **FIG. 9**

TAKE some lip rouge on the brush, and work it out on your palm. Place the brush in the corner of the subject's mouth, and have her close her lips. Then gently draw the brush out of the mouth corner. This leaves a defining line at the corner and points up the lips at the outer edge. Repeat at the other corner, and then paint the color on the lips. **FIG. 10**

sometimes called lining color, is then blended over the upper eyelid (Figs. 6 and 7). Eyelash make-up or lash color is the finishing touch to the upper features (Fig. 8).

The lip coloring, on your girl model, determines the lip curve and the size of the lips as well. It is applied last, after the other features have been defined. Correct make-up of the lips, you will find, adds that final glamorous appeal, that every woman desires in her portrait. Finally retouch any parts of the make-up to be certain the effects are clear and distinct. Then Fig. 2 comes to life before your sharp-seeking lens!

A face powder of the same color as the foundation make-up may be patted on to tone down any undesirable sheen. Not so hard, is it?

Think, for a minute, of Nero's Queen Poppaea, reclining in the midst of a hundred slave girls, as a poultice of boiled flour is washed from her face with asses' milk. Then her precious skin is whitened with chalk and white lead. Egyptian kohl darkens her eyelids and lashes, and a seaweed rouge colors cheeks and lips. Last of all, delicate blue veins are painted on the temples to denote her lady-like fragility. No, make-up is a soft touch today compared to all that.

● **MEN REQUIRE** little make-up compared to that used by women. In formal

portraits, however, they must appear well groomed and heavy beard lines are unflattering. Use a foundation and accurately define the *natural* masculine lips. Then tone down the foundation until it is hardly visible to the eye. Remove the lip color. Enough color always remains to give you all the definition needed.

For women, make-up plays a more important role. The colors of make-up used by women for their everyday purpose has little photographic value for black and white portraits. The films are too fast and the usual reds are photographically lost under normal lighting conditions. Cheek rouge has no photographic value for the same reason. It photographs as a shadow or a smudge.

● **IMAGINE YOUR** model with hair, eyes, and skin all the same color! The monotony would certainly dampen the expression. That is why we study the *color* of these features. Note especially the contrast of the hair against the skin. The color of the eyes is the harmony link between these contrasting elements.

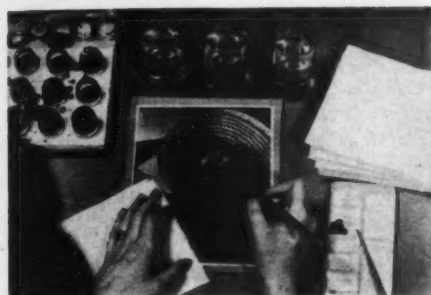
The eyes are the most expressive feature of the face. The form and shape of the eye is enhanced by the application of eye-shadow. This color is blended on the upper eyelid immediately above the lashes, covering the area of the eyeball.

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COLOR METHODS

THE FLEXICHROME PROCESS

BY JACK CRAWFORD



STEP 1. To the black and white Flexichrome print, a flat wash of color is applied without regard to highlights or shadows.



STEP 2. Surface color is blotted away with a paper napkin, leaving only the color that has been absorbed by the image.



STEP 3. The print is rinsed locally with a brush load of dilute acetic acid to dissolve excess color in the highlights.



STEP 4. The rinse solution is blotted away, leaving the area in brilliant color. The same steps are repeated with other colors.

COLOR, to the scientist, is a subject having to do with cones and rods in the human eye, and with vibrations measured in millimicron wave lengths.

To the public, color is simpler—only a matter of looking for the pleasant sensation so richly seen in the colors of nature. Any means that will accomplish

this end is justified. No wonder, then, that the earliest attempts at "color" photography sought the cheapest and most direct solution—painting black and white photographs with oils or water colors. These methods are still popular.

The Flexichrome process differs from other coloring methods in that the worker

(Page 92, please)

Sept.

CAMERALMANAC

THE CALENDAR boys, in their hide-bound, reactionary way, keep on insisting that January is the first month of the year despite all the obvious evidence that *September* really is the leaf-off. January is just a mop-up month following the Christmas holiday, full of unpaid bills, slush, and other unpleasantnesses. But September—ah, there's a month for you.

In September, so many things begin to happen that Labor Day really should be celebrated as New Year's Day. The lovely autumn comes; football prances in; the landscape goes multicolor; schools, colleges, universities, and the new season in town all open with suitable noises; and a million or so darkrooms come to life.

Tush for the poets and their "melancholy days"; I'll take September, and like it.

September's Good for . . .

Photographically speaking, September's pretty lush.

Look at Labor Day, for example. This year it's the very first day of the month, the wind-up of one of those long week-ends on which everybody tries to go somewhere and then get back at the same time. The total result is very refreshing, photographically speaking. Consider the traffic cops, the bike boys, the purveyors of gasoline, the bridge tenders, the hamburger slingers, all of those long-suffering humans one encounters in the course of a two or three day drive. On a week end like this, they get frayed and frazzled. In short, they become more human than ever. And excellent camera material. If you don't make up a charming little series of photo-Americana dedicated to this special week end, don't blame me.

School Stuff

If you'd rather not look at Labor Day, sit quietly at home and consider the pictorial possibilities of school—any school at all. Maybe little Junior is off to school for the first time this month; maybe Glamorous Gertrude is getting herself in training for the rushing season over at State this fall; maybe somebody you know (yourself, for instance) is going to school in the Army. It's all school, and remarkable camera fodder.

Have you ever seen, for example, a really good photo-story of a day or a term in school? . . . Me neither. And I don't know why someone, you perhaps, doesn't tackle it and make a name for himself. We've all seen high school and college scrap books and year books, but they are purty dreary stuff, when you get right down to cases about them. Why not cut loose and imagine that the editor of MINICAM or *Life* has commissioned you to make a comprehensive picture story of a day, or a week, or a term in the life of the school in which you are most interested? You'd turn out quite a job, chum, because the material is rich. Think it over.

Trend

We may have mentioned it before, but there's a trend you should certainly be

→
INDOORS looking out symbolizes fall weather for some. Venetian blinds and curtains provide tricky lighting. Taking pictures with a subject close to a window is just as easy as shooting outdoors. The exposure for this print by Ernest Gottlieb, from Monkmeyer, was f/11, 1/50 second. The veil draped over the model's shoulders adds to the subtle mood.

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aware of. And that's the rapidly growing practice of compiling photograph albums or books, each book devoted to some special subject—a vacation, or a term at school, or a new house, or whatever it may be. Most of the pictures are enlargements; and the pages are usually bromide paper, mounted back-to-back with mount-

ing tissue. They're completely unlike the old-style photograph albums, and by gum, they'd better be.

Gridironing

Football was mentioned, back near the start of this treatise; and if football isn't photogenic, I don't know what is. At this

WE'RE not likely to take a world cruise these days or to witness the operations of a sea raider from a life boat, but this is no bar to picture taking. Even if it rains when the sun ought to shine, it can be put to account.

. . . AND WATER

BY GASTON VAN





LIFE'S DARKEST MOMENT

BY J. L. BENEDICT

A CHILD'S darkest moment may be the photographer's bright one. Children are born actors. The photographer wisely provided two ice cream cones. The camera was focused on one, dropped where it would do the most good. After the picture was taken the child was rewarded with the other ice cream cone. DATA: Maximar B Camera. 9x12 cm., Panatomic X film, $f/8$, $1/100$ second. Film developed in DK20. Print on Kodabromide paper developed in D72. This picture has been entered in five contests and salons, winning recognition every time.

time, at the start of the season, don't depend on the Saturday games for your pictures. Try to get in on some practice sessions. You'll be able to get closer to the play, and to pick and choose your angles more deliberately.

Star Trails

Some of these September nights are bound to be very clear and fair, perfect for making star-trail pictures. Ever try one? The trick is to pick out a segment of the heavens, with a tree, or the side of a house or something of the sort at the edge of your field of view to give orien-

tation of direction to your picture. Set your camera up on a tripod and shield it from lights, as from passing cars. With an exposure of an hour or so, at the best working aperture of your lens (not the widest aperture, but the best, say about $f/8$) you'll get a very interesting star pattern. Use a fast pan film such as Super XX or Superpan Press. Each visible star will show as a line, curving according to its relation to the whirl and orbit of the earth. . . . Our old friend Vardid Kewpie finished one such picture up by firing a No. 5 flash straight up toward the stars. Bright boy.

CENTRAL PARK SILHOUETTE

BY ANDRE DE DIENES

THE worm's-eye angle comes in pretty handy when depicting humans as distant Lilliputians. Because the horses and people all were moving, it was necessary to take several pictures until one was obtained with the right placement. The sky was darkened by dodging.





HERE the low angle, with the camera on the ground, gives the trees the effect of a Gargantuan jungle. The camera was placed so as to get the black shadow in the lower left corner. The photographer waited for a car to appear over the rise so he could snap the shutter and get out of the way.



SEAL

By HILDA FERGUSON HAMPFLE

THIS picture is from the Annual Photographic Exhibition of the Philadelphia Zoo in which some of the best zoo pictures in the country often are taken. With animals as with humans, expression may make or break a picture.

And so on

It's quite impossible to catalog all of September's picture-making joys. The thing to remember is that this is a relatively rich month, pictorially speaking. Stop a moment right now and think of the things you plan to do during the month. You'll have a good long list in no time. List pictures of yourself and others *doing* things, and if you actually make half of the pictures that occur to you, you'll have ample material for a whole brace of those little photo books.

The odd thing about picture making is that the more you practice it, the more pictorial the whole year becomes. Each month seems better than the others. When you reach that stage, you're really getting something out of photography. Offhand, I'd say that you're getting the very best that photography has to offer.

September Calendar Notes

- SEPT. 1—Labor Day, winding up the last, long, luxurious week-end of the summer. Fair weather promised, so keep your camera handy.
- SEPT. 3—World War II begins, 1939.
- SEPT. 5—Full Moon. Pretty, but not very actinic.
- SEPT. 9—Battle of the Marne ends, 1914, in frustration for the Germans and fame for Paris taxicabs.
- SEPT. 14—"Star Spangled Banner" was written, 1814. Sung with new relish by many, 1941.
- SEPT. 21—First U. S. daily paper appears, 1784. No roto section, no cheesecake, nothing but news. 1941 newspaper just the opposite; all pictures, no news.
- SEPT. 22—Many schools and colleges open today. Cameras ditto.
- SEPT. 23—Autumn begins at precisely 4:33 a. m. But don't expect foliage to turn Kodachromatic right away. Give it a few weeks. Then have your real fun—and reel fun if you have your home movie camera handy.

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**FRANKLIN
FIELD
STADIUM**
(above)
By
**KENNETH E.
DEVITT**



HOME GUARD
By
**VICTOR
POKORNY**



LOUDSPEAKER on chair beneath screen furnishes simple accompaniment. **FIG. 1**



PLACE microphone below and to one side of actor. **FIG. 2**
IMAGE in camera finder eliminates microphone from the picture. **FIG. 3**

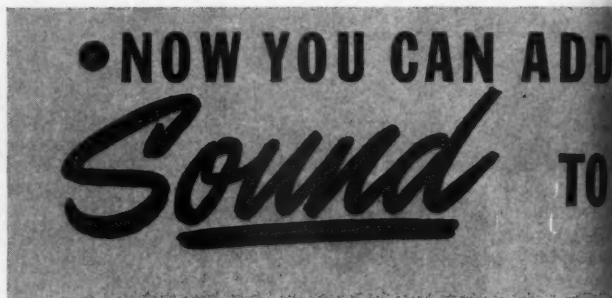


THE MECHANICAL piano, whose rickety thread of music followed the nickelodian hero from custard pie to blaze of gun, was an humble acknowledgment that a movie without sound is like a hot dog without mustard and pickle.

Where a flesh and blood pianist banged away, he had to rest his fingers once in a while, or run out for a short beer. But the picture rolled on, while we remained with a hollow and empty feeling in our ears, watching the soundless antics of the screen actors.

When Al Jolson, kneeling on the shadow stage of the film, "The Jazz Singer," only 14 years ago, raised his white-gloved hands in supplication while a caricature of his voice sang through horns behind the screen all was changed.

That testimony to the power of sound added to motion pictures was in the professional theater. Sound with amateur movies was another story. At first it was as awkward as the



early records Thomas Edison made to accompany his Cinematograph. Then came inexpensive reproducing units and electrical recording. The game was won for sound.

Showing films with sound need involve no great expense. A simple record player, connected to your radio, is adequate for furnishing a musical accompaniment. A record player costs from \$5.00 up, and even the least expensive serves admirably. Sometimes the cheapest is best because its synchronous motor is built on the same principle as an electric clock. This provides a constant speed which is a big aid to accurate synchronization.

● **WITH THE** radio or loudspeaker near the screen such a record player makes simple musical scoring a routine matter (Fig. 1). The best records for this purpose are organ and orchestral selections. Violin and piano solos are not quite as good, and vocal records or records with a vocal chorus are nearly always unsuitable. The result, of course, is not a sound movie, but a silent movie with sound accompaniment.

The turntable can also be used to make a film that appears to be an actual talkie. Select a record having a vocal chorus. Then have a friend sing with the record until he or she keeps in perfect unison with it. Then photograph the friend while singing, with the record playing simultaneously. This film is projected while the record is playing. When the correct starting position is found, place a start mark on the leader of the film, so that record and film may be started exactly together, and music and picture reach the beginning of the vocal at the same time.

When recording while taking a picture, the problem of concealing the microphone is easily solved. Simply place it on a low stand as in Fig. 2. Then with the camera aimed just a bit above the top of the microphone, no sign of it will appear in the final picture, as shown in Fig. 3. Tilt the microphone



WITH single turntable and inexpensive microphone, both musical accompaniment and narration are combined. FIG. 4

YOUR HOME MOVIES

Written and illustrated by Jeffrey Quinn

toward the speaker, as shown. This gives maximum voice pickup, and least tendency to pick up camera noise and room echo.

If you plan to record sound only as an accompaniment, and not for accurate synchronization, precise speed is not necessary. A very useful arrangement is shown in Fig. 4. In this set-up, a microphone is supplied in addition to the phonograph. A simple, "home broadcast" type of microphone, costing about \$3 is satisfactory. With this, you can read a narration with your film, blended with a musical background from the phonograph. The voice covers up the pauses while records are being changed, and the result sounds extremely professional.

Special musical selections recorded primarily for film accompaniment, as well as records of a great many sound effects—auto horn, steamship whistles, crashes, etc.—are also obtainable (Fig. 5). Careful



SOUND effect and special music disks have selections separated by blank bands seen as black circles on the records. FIG. 5



STROBOSCOPE disk. It appears to be stationary when revolved at standard 78 revolutions per minute under lamp on standard 60-cycle, AC line. FIG. 6



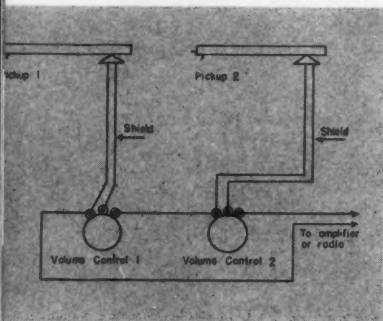
DOUBLE turntable allows smooth musical accompaniment. Here the film is projected through a porch window into living room. This keeps projector noise from audience.

FIG. 7



CLOCK with minute and second hands aids in synchronizing musical accompaniment and film sequences.

FIG. 8



WIRING diagram shows "series mixer" connection for above double turntables.

FIG. 9

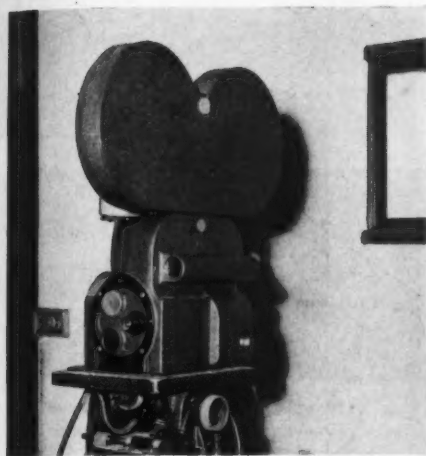
timing of these effects will make them appear extremely natural and effective.

● **ON THE OTHER** hand, when you project specially-filmed movies the picture must be in exact synchronism with the recorded accompaniment. If the phonograph is of the constant speed variety, the projector speed is controlled to keep the two in synchronism. A few rehearsals will make this easy. If at any time during the showing, the picture appears to get ahead of the sound, the projector is slowed down—if the sound gets ahead, the projector speed is increased. If the phonograph is not constant speed, adjust its speed to exactly 78 r.p.m. Control the synchronism by means of the projector only.

The easiest way to adjust the speed of the phonograph is with a stroboscope, a cardboard disk with radial lines, or a circle of dots, drawn around the edge (Fig. 6). When the revolving disk is viewed by the light of a lamp on a 60-cycle AC line, it will appear to be standing still when the disk is rotating exactly 78 r.p.m. This is true only when the disk has the correct number of lines on it. Although the disk can be made at home, any radio dealer can sell you one for less than 25 cents, and may even supply one with your record player, free of charge.

For elaborate scoring, a double turntable unit (Fig. 7) is generally used, with or without a microphone. The usual double turntable has a single volume control, so connected that the sound on one table is completely faded out before the second starts to come in. For greatest flexibility, the connection shown in Fig. 9 is used, and this entire set-up can be built for about \$20 and up, depending on the quality desired. This connection provides for individual volume controls, and is known as a "series mixer." Each volume control can shut off the sound from its pickup completely. When both volume controls are open, sound from both pickups is heard, and by adjusting these controls, either pickup may be made to dominate. Thus music may be mixed with sound effects from the other turntable, or the two tables may be used independently to provide a continuous musical background.

● **IF YOU BUILD** this yourself, note the connections from the pickups particularly. The pickup, as a rule, has only a single wire leading from it. This wire is insulated and surrounded by a metal braid, or "shield," which forms the second connection.



RCA "single system" sound camera records both sound and action on a single film.

FIG. 10



"AURICON" double system sound recorder makes a separate synchronized sound record.

FIG. 11

For smoothest performance, practice putting records on the tables and taking them off without stopping the motor. Few phonographs run evenly when first started, though the speed becomes quite constant after they have been running a short time, permitting the motors to run continuously assures freedom from wavering tone when a record is first started.

The greatest problem in musical accompaniment from records is spotting the exact point at which a given bit of music occurs. Even with a system of marking grooves, it is almost impossible to drop the needle accurately into the selected spot, and a simple timing method, similar to that used in commercial recording studios is recommended. This method uses a dark-room clock with minute and second hands (Fig. 8). If we want to start our film and have the main title appear on the screen simultaneously with the opening notes of the record, we have only to start the record, drop the pickup into the outer groove just as we start the clock, and find out how many seconds elapse until the record starts to play. Then we know how much before the main title we must start the record, in order that the music will begin even with the main title.

The turntables must be running at pre-

cisely the correct speed, so that the needle will always take exactly the same time to reach a given spot on the record. If constant speed tables are not in use, speed should be checked with the stroboscope each time a show is given.

This system also prevents silent pauses while records are being changed. Say a given record has 7 seconds of blank groove before the music starts. Then, 7 seconds *before* the cue, the pickup is gently slid into the outer groove, with the motor running, and the volume control of that pickup "OFF." Wait 7 seconds, then smoothly turn the first volume control to "OFF" and bring up the second one. If this has been done accurately, the music will start just as the fade is being made, and a smooth change will be performed.

The same method is used to find a given phrase or bar of music near the middle of the record, or a given sound effect on a record containing several. Sometimes it will be found that the spot desired is near the end of the record and it has to play silently for several minutes until the desired point is reached. Meanwhile, another change may be necessary in music being played. In this case the score should

(Page 98, please)



K A M E R A

LOOK AT THE PICTURES AND CHECK YOUR ANSWERS

SEPTEMBER WEATHER is very nearly perfect for the photographer. Tap water runs cool again, and outdoors it couldn't be better "with air conditioning."

Picture-taking questions are the vogue this month, with a toughie or two to tangle with. Take a swing at this set of ten and see how you stand, as Autumn breezes in.



- 4** In outdoor groups, as above, would you take your meter reading from: ☐ Background? ☐ Deep shadows? ☐ White shirt? ☐ Face?



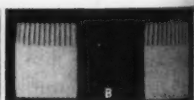
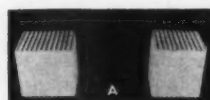
- 1** Both these shots were made on the same kind of film. "A" was taken through a red filter; "B" was not. The film used was ☐ Process. ☐ Infra-red. ☐ Ortho. ☐ Superpan.



- 5** Which of the pictures was printed from a negative that was scratched on its emulsion side? ☐ A. ☐ B. Which is from a negative scratched on its film base? ☐ A. ☐ B.

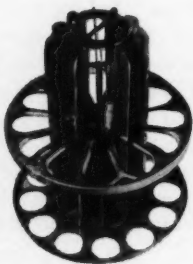


- 2** If these shots were made at same shutter speed with different lenses, did lens for "A" have longer focal length? ☐ Yes. ☐ No.



- 6** Which one of these pictures was made at close range with a lens of short focal length? ☐ A. ☐ B.

- 3** Our local Hawkshaw found this at the scene of a crime and arrested the owner of a film pack camera who developed his own films in a tank. Did he put the cuffs on the right party this time? ☐ Yes. ☐ No.

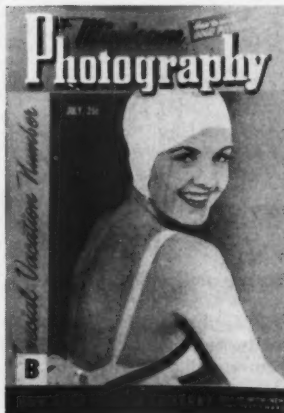
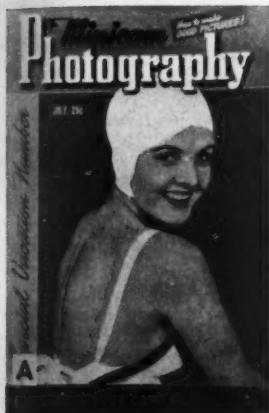


- 7** This cinebug develops lengths of movie film in ordinary room light. They come out solid black. Is he ☐ Just killing time? ☐ Using up old film? ☐ Developing leaders for home-loaded bulk film?

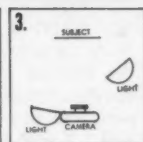
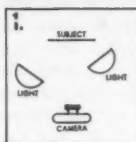


AKWIZ

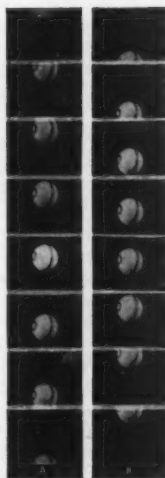
TEST YOUR PHOTOGRAPHIC KNOWLEDGE



8 The diagrams at right show the way these three copies of the July cover were lighted. Match copies and diagrams. Copy "A" was lighted as in Diagram No. ☐. Copy "B" as in No. ☐. Copy "C" as in No. ☐.



9 Here are two strips of movie film of a falling ball. One of them shows the action in reverse. Remember that the movie film runs downward through the camera, and the images are formed upside down on the film. Which strip shows reverse action? ☐ A. ☐ B.



10 Some movies of moving wheels show the wheel spokes moving backward while the vehicle moves forward. This illusion is produced by the relative speeds of camera and the spokes of the wheel. ☐ True. ☐ False.

ANSWERS

Don't peek! Check your questions first.

1. Infra-red. The only other possible choice, "Superpan," when correctly exposed without a filter, would not show the clear blue sky as blank as in "8."
2. Yes. To stop motion with a lens of longer focal length usually requires a faster shutter speed than for lens of normal focal length. Note blur in "A".
3. Yes. This is the core from a film pack tank.
4. Faces.
5. "8" was scratched on the emulsion, as indicated by the black scratches. "A" was scratched on the film base. Such scratches print lighter.
6. "A" was taken with a short focal length lens. In "A" the inner surfaces of the cubes can be seen, which indicates that the lens was close to the subject.
7. Developing leaders for home-loaded bulk movie film. These permit loading the camera in daylight.
8. Copy "A" was made as in diagram No. 2, with both lamps at 45° angles to the copy and an equal distance from it. Copy "B" was made as in diagram No. 1, with the right lamp too close. This caused the white edge on the right side of "B." Copy "C" was made as in diagram No. 3, with the lefthand light too close to the camera.
9. "8" shows reverse action. Turn the page upside down and "read" the strips from top to bottom. That is the order and position in which each frame appears on the screen. With the strips inverted, the ball in "B" is at the bottom of the frame in the first picture and rises with each succeeding frame.
10. True. This stroboscopic effect is produced when the number of times per second the wheel revolves is different from the number of frames per second exposed by the camera.

Score: 5 correct is fair; 6 correct is good; and 8 correct is excellent.



CROWN PRINCE. Contax camera, f8, 1/50.

BY NOW, IT should be fairly obvious that the purpose of this department is not to afford space for the airing of any one person's pet photographic peeves, or for the display of his alleged erudition. It is intended to be helpful in pointing out why some pictures fail to click.

● **CROWN PRINCE**, by G. P. Binghamton, N. Y., is a subject that really knocks your lens cap off. As G. P. writes: "At the local zoo this lion cub lay in the sun with cross shadows over him practically asking me to photograph him." You're 100 percent right, G. P., and you did a good job with a fine model. Sharper rendition of the cub's fur, however, would add the final ounce of "oomph" to this picture. Lighting conditions were ideal, so perhaps the 1/50-second exposure was too slow for a hand-held shot with a miniature camera. Even a slight movement of the camera during exposure destroys texture. On another sunny day try again, using 1/100 or even 1/200-second. That way you'll be certain to retain the texture of the fur. Incidentally, trimming about half an inch from each end of the picture will center interest on the cub's head.

● **SWANS**, on the other hand, isn't the picture it might be because, like the valiant knight in the story, it mounts its steed and rides off



SWANS. Zeiss
Nettar camera,
Agfa Plena-
chrome film,
f/16, 1/50 sec.

Being
Your SNAPSOTS AND

furiously in all directions. Every swan points out of the picture area, and only the two most distant point in the same direction. This fact, coupled with the lack of emphasis, and the excessive freedom of the pattern, does not make for a picture the eyes enjoy. Indeed, eyes are sent roaming beyond the picture area by every element in it. And that is no way for a picture to behave if it wants to get looked at.

By the way, that dark area in the right center of the picture is a "hot spot," the result of enlargement via an enlarger which doesn't afford uniformly even illumination. Sometimes this difficulty can be solved by proper positioning



OLD RIGGING.
Eastman
Super-XX film,
Yellow (K-2)
filter, f/16, 1/100.

of the lamp; in other cases it may be necessary to interpose a sheet of flashed opal glass between the lamp and the lens to distribute the light more evenly. In any case, you can test your enlarger for hot spots by making a short exposure, without a negative, on contrast paper. If normal development produces a reasonably uniform gray tone, all is well.

● **OLD RIGGING** by J. T., Brooklyn, N. Y., is technically a fine photograph, of better than average quality. But as a picture it is too "busy," too scrappy to be called successful. Either of two methods could better have been employed. First, by backing off a little bit, an all-over pattern could have been obtained that might hold together better. Second, one single feature, such as the pulley block at the lower

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Critical

HOW TO BETTER THEM

left, could have been singled out for emphasis, with the rest of the rigging used as a background. One difficulty with the picture as it stands is the dominance of the relatively uninteresting mast at the right. Such picture material is fascinating. You know it's capable of a variety of interesting treatments, but it is not easy to select and isolate exactly what you need for a first-class composition.

● **CLOUDS OVER THE FARM**, by E. R., Fonda, Iowa, has been rejected, according to E. R., by four editors. And he naturally wonders why. Well, let's see. In the first place, it



CLOUDS OVER FARM. 120 Box camera, Agfa Plenachrome.

doesn't seem to spell *farm* definitely enough to justify the title. The emphasis is on the power line pole; thus the locale of the picture might be almost anywhere. If the emphasis had been placed, for example, on a lightning rod atop a barn, with the clouds dramatizing the background, E. R. might have a happier time with editors. Another factor that doesn't help is the overload of black, meaningless foreground. In general, this looks like a snap made more in hope than in faith, with insufficient time spent on determining exactly what the picture was to say and do. In these days of intense competition among both pros and amateurs for editorial favor, a picture really has to be good to sell. And it's a good thing, too.



SUNSET. Perflex "55", Kodak Plus-X, f/5.6, 1/100.

● **SUNSET**, by W. B., Jr., Deerfield, Mass., happens, by an honest coincidence, to be the next picture we turned up. It could be titled, "Clouds Over the Farm" with perfect reasonableness, for here—unmistakably—we have a farm. It's a pretty good job of picture making, too, with a pleasant rhythm to it. In the 8 x 10 enlargement there's a good deal of grain—hard to understand, too, for Plus-X Film was used, developed in DK-20. Something must have happened. Otherwise, we like this shot. It was made with a degree of perception and appreciation.

● **SAIL AND CLOUDS**, By B. S. Hannibal, Mo., is fairly good. If it were technically as fine and as clean a shot as "Old Rigging," it would be a first-class job, meriting considerable—and enjoyable—enlargement. As it is, however, I'm afraid it won't blow up satisfactorily; it was, it appears, made from a moving boat so that the closest waves are blurred, and there's a general lack of clean sharpness about the whole thing that tends to defeat successful enlargement. The clouds, emphasized by the use of a yellow filter, stand out well, the horizon is right, the sailboat is well placed. But lacking photographic quality, the picture just misses. Better luck next time!



SAIL AND CLOUDS. Yellow filter, f/16, 1/100.



NEW LAMP

"SEES"

IN THE DARK

ANYONE NOW CAN TAKE BLACKOUT FLASH PICTURES

DAN GROSSI with his Speed Graphic equipped with a Sun-Ray infra-red flash reflector. The clip-on visor is recommended by Army officials to prevent the flash from being seen by enemy plane during blackouts.

IT IS NOW easy to take pictures in total darkness without visible light of any kind. By using the new Superflash Blackout Lamps, flash pictures may be taken of theater performances, weddings, courtrooms, photographic darkrooms and other scenes where a visible flash is objectionable or where it is desired to take a picture without the subject's awareness.

The blackout lamp is almost invisible in operation, even in total darkness. Only a brief red glow can be seen if the subject is looking at the reflector or lamp when it is flashed.

Any camera may be used and it is only necessary to load it with infra-red film, which is available in all standard sizes. No filter is needed. The picture is made entirely by invisible infra-red radiation.

The Wabash Blackout Lamp (60c) is a No. 2 Superflash coated with an especially prepared black infra-red filter which dries hard as nails and cannot be damaged by mechanical, chemical, or atmospheric conditions. This black infra-red coating serves to hold back the visible light produced by the flash. It transmits only the infra-red rays which are invisible to the eye, but which register on the infra-red sensitive film in the camera.

The peculiar effects invisible light produces are extremely interesting. Dark lipstick, for instance, comes out almost pure white, invisible veins lying under the skin show up with startling contrast. Old

stains in clothing, even though dry-cleaned, show up clear in the picture as though they were never removed. A clean-shaven man will look as though he needs a shave, and many other odd effects will show up under various conditions with this type of photography.

Exposure. With infra-red film and one Wabash Blackout lamp in a reflector, correct exposure, at 1/50 second, is given by a flash number of 40. Divide distance in feet into 40 to get correct lens aperture. Thus, at ten feet, 40 divided by 10 equals f/4. If in doubt, shoot wide open. There is no danger of overexposing.

The lamp can be used in any type of reflector. The Sun Ray Blackout Reflector (\$9.75) has a large reflecting surface and a clip-on visor recommended by Army officials to prevent any possible light leakage upwards.

Many photographers have been experimenting with homemade infra-red flash equipment following the article in June MINICAM, "Blackout Photography." An ordinary flash lamp may be used provided there is a housing or reflector for the flash lamp covered with an infra-red filter such

BLACKOUT lamp (right) next to a Wabash No. 2.





EXCEPT for an enclosed ruby safelight, this picture was taken in total darkness in a black photographic darkroom with one Blackout Superflash, at 1/50th sec., f5.6, 6 ft. from camera. By Dan Grossi.



ROCKETTES relaxing between acts in the darkened wings of the stage at Radio City Music Hall, as caught by the infra-red flash. Note the pale white lips and dark eyes. One Blackout Superflash, 1/50th sec., f4, at 10 ft.

as the Wratten 87 or 88a. One method is to use a darkroom safelight with an infra-red filter, for the lamp housing. This permits the filter to be slid out for inserting fresh flash lamps. This method has been used by news photographers in London for taking pictures during air raids. Exposure with a filtered Wabash No. 2 is same as recommended for the Blackout Lamp. Use a flash number of 40.

Development. Infra-red Film is developed just like ordinary film. Development time may be increased up to 50% as infra-red flash shots are likely to be underexposed.

Focusing. As infra-red rays are longer than visible light rays, a slight focusing adjustment theoretically is needed. With miniature cameras, this item is so small that it may be ignored.

The amount of focusing adjustment necessary varies with different lenses, depending on their degree of color correction. Some camera lenses have a dot marked on the lens focusing scale to indicate the

amount of lens extension necessary for infra-red. For many lenses this dot indicating the plane of focus for infra-red is at approximately the 50-foot mark. This means that when the lens scale is set at 50 feet, it is focused for infra-red at infinity.

This distance on the lens scale, from the infinity mark to the 50-foot mark, represents the amount of adjustment necessary. After the lens is focused for any distance, it then can be moved forward this amount.

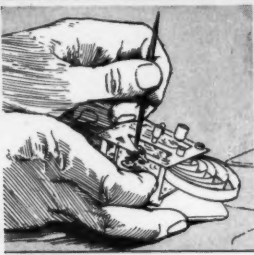
Focusing for infra-red may be done with a red filter on the lens or rangefinder window. To increase the accuracy of this test, focusing may be done first with a green filter and then with a red one, noting the position of the lens in each case. Multiply the distance by $1\frac{1}{2}$ and you will have an accurate measurement of the amount of lens adjustment required to focus infra-red rays.

Another empirical method calls for the taking of an infra-red picture of staggered

(Page 90, please)

TIMER

MADE FROM DOLLAR CLOCK
BY PAUL H. STONE



A small file removes teeth from escapement wheel to change clock to timer.

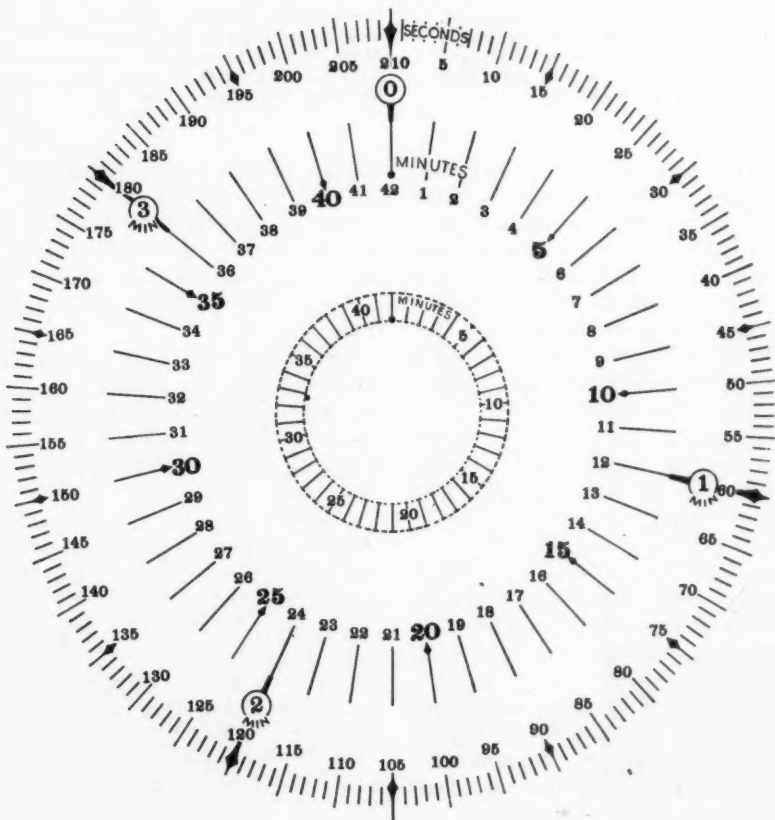
back of the case and take the case off. Lay the clock face down diagonally across the case or a shallow dish to protect the exposed hands. Then wind the main spring a turn or two and watch the action of the wheels. This is the surest way of locating the correct wheel from which the teeth are to be removed.

A DOLLAR ALARM clock is quickly converted into a darkroom timer by filing off all but one of the teeth on the escapement wheel in the works and pasting the dials printed below over the regular time and alarm dials.

Allow the clock to run down completely. Then remove the four to six screws, alarm button and the two winding keys on the

The main spring is fastened to a large wheel that drives a series of smaller wheels (see Fig. 1, page 93). The second largest wheel (wheel No. 2 on Fig. 1) has for its axle the time-setting post at the back of the clock. On the other end are the two

(Page 93, please)



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It's Here!

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light

★ Multiple outlets

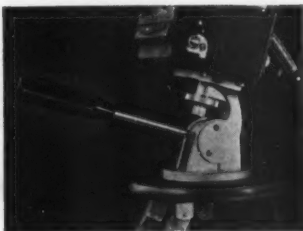


NEW because it's dependable — **new** because it's Graflex-engineered — **new** because it's truly precision-built. No need to check before every job. Flash photography comes of age in the Graflex Synchronizer!

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Built-in spotlight for focusing and sighting in poor light . . . outlets for multiple flash, focal-plane syn-

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chronization and remote control . . . silver contacts on safety-switch and at other important connections . . . 5" reflector for bayonet-base lamps and adjustable 7" reflector for medium-base lamps, both with built-in lamp ejectors, self-centering and self-locking mounts . . . solenoid release permanently mountable on 3 1/4 x 4 1/4 and 4x5 Anniversary Speed Graphics, quickly-detachable from Miniature Speed Graphic lensboard . . . accessories available for multiple-flash and remote control work. Now available at your Dealer's . . . \$29.50.

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Trouble Shooting: Prints

(Continued from page 43)

the portions under the bubbles to be underdeveloped, and consequently lighter than the surrounding portions. This fault is seldom found when there is proper agitation of the paper in the developer or when the developer is fresh.

18. Newton Rings, shown greatly enlarged, consist of concentric irregular patterns caused by imperfect contact between the negative and the carrier glasses. Negatives that are not completely dry may print with Newton Rings. This fault may be aggravated by specks of grit, or dents in the film. If a glassless carrier is used this fault cannot exist. To eliminate, insert paper masks to separate the film from the glass at all points except the edges.

19. Stains are often yellow or brown splotches although they are sometimes purple or black. Exhausted developer is more likely to stain prints, although stains can be caused by fresh developer if the short-stop or hypo solutions are bad, particularly if the print is allowed to float on the surface. Stains are encouraged by lifting prints out of the developer for long inspection. Light-colored stains can sometimes be bleached out in a bleach such as used for sulphide sepia prints. The print is then redeveloped, after a brief wash, in the regular paper developer.

20. Mottling. Mottled prints are caused by underdevelopment, particularly so

when a print is jerked out of the developer because it was overexposed. Inadequate agitation encourages this fault.

21. Imperfect Ferrotyping. When a glossy print is not in complete contact with the ferrotype tin, air spaces between the print and the tin prevent the gelatin from taking on an even gloss. Soak the print and referotype, using more care when squeegeeing.

Trouble Shooting: Negatives

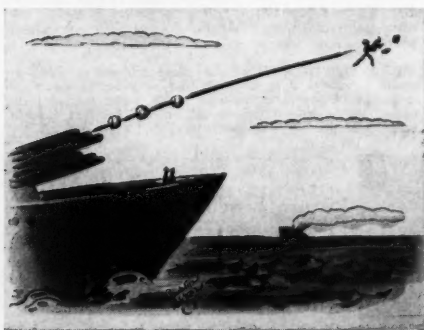
(Continued from page 46)

the film and keep your fingers clean. No cure except retouching.

14. Hypo Mark. Transparent finger prints on the negative are caused by "Hypo Fingers." To avoid them, carefully wash and dry the hands before developing film. In addition refrain from touching the face of the film during development. Retouching this flaw out of the negative or the print with long tedious spotting is the only cure.

15. Stacked Sheet Film. If sheet films are allowed to lie in contact during development, they often leave their marks on the films below them in the developer. A line corresponding to the corner or edge of the upper film is formed, and development is generally retarded where the two sheets have been in contact. Continuous agitation and shuffling of the films during development is a good way to avoid this flaw. Tank development in regular hangers, well-spaced from one another is an even better solution. Careful dodging can sometimes hide much of the damage from this flaw.

16. Drying Marks. These marks, follow the outline of the water drops that cause them, and are generally irregular in shape. Remove the surface moisture from the negative with chamois, sponge, or cotton swab, and then hang it up to dry where it is safe from splattering water. These spots can sometimes be cured by prolonged soaking in a water bath containing a wetting agent, or by bleaching and redeveloping.



"That ought to break him of developing pictures in there."

The sure pictures
are flash
pictures...



... 8 out of 10 are taken
with Wabash Superflash!*

IT TAKES *flash* to get a good picture, *sure*—regardless of lighting conditions. That's why everywhere today you see more and more good pictures that are flash pictures. Most of them are taken with Wabash Superflash—8 out of 10, in fact. Why? Simply because there's an extra margin of safety in a Wabash Superflash bulb. An extra-powerful, extra-long, peak-light flash from its patented all-hydronalium wire element. Amateur and professional photographers alike find good pictures surest of all when taken with Wabash Superflash bulbs!

Try them for your next pictures—*sure*! Wabash Photolamp Corp., Brooklyn, N. Y.

*Available in all standard sizes to fit all cameras, synchronizers. See your dealer.

Superflash shot by Stewart Love, Buffalo Courier-Express.

Add Background

(Continued from page 34)

posure of this negative also, and note its correct time.

Then print the cloud negative on a sheet of enlarging paper. Mark the top edge of this sheet on the back so that all images will be printed right side up. Remove the cloud negative and insert the foreground shot in the enlarger.

Place the sheet of enlarging paper in a light-tight envelope. Then lay the guide sketch on the easel and position the foreground image. Replace the guide sketch with the enlarging paper and make the final exposure. The result is Fig. 4.

● **BACKGROUNDS** need not be limited to clouds alone. From single to double backgrounds is an easy step. Fig. 7 shows the result of printing Figs. 3 and 5 with the foreground of Fig. 1. The procedure is the same as for Fig. 4, except that the rough outline of the foliage is also sketched on the guide drawing to indicate position.

When several negatives are used, it may be necessary to focus the enlarger each time. This can be done with the red filter in position. A safer way, is to mark the top of the sheet, and remove it to a box or envelope each time before changing negatives. In that way you can safely focus without a filter.

One additional step is needed to remove undesirable backgrounds and replace them with more pleasing subjects.

Fig. 8 shows a blotchy, out-of-focus background that merely detracts from the picture. This is removed with negative opaque, a reddish, paste-like, water color that is easily applied with a small sable brush. Follow the outline of the figure closely, fill in the large areas, and the negative prints with a blank white background (Fig. 9).

Place the opaqued negative in the enlarger and focus it to the desired size. Then make an accurate outline mask of the figure. The easiest way is to print the figure on single weight paper. Make the image the *exact size* required in the

final print. When this print is dry, paste black paper on its back to ensure opacity and cut out the figure with sharp scissors or a razor blade. Keep the outline as nearly exact as possible.

Next make an accurate drawing of the figure as described for Fig. 1, on white paper of the same dimensions as the enlarging paper. This serves as a guide for positioning the mask of the figure.

Now place the background negative in the enlarger and focus it to size.

Insert a sheet of enlarging paper in the easel, and over this, against the margin stops, lay the guide sketch. Lay the figure mask in position on the sketch and tape the bottom edge to the easel so it will not move. Lift out the guide sketch and print the background.

With these precautions results such as Fig. 13 are avoided. Inaccurate registration of the figure image with the mask caused this white outline.

Return the figure negative to the enlarger, focus to exact size on the guide sketch. Then replace the enlarging paper, with the end marked "top" at the top. With guide sketch and enlarging paper tight against the margin stops on the easel, registration of the unseen masked image with the negative image of the figure is relatively easy. Remove the guide sketch and make the final exposure.

Development and all other steps in processing are done in the regular way.

If the figure and mask are not in perfect registration, a thin white line shows. This may be removed by spotting, which is described on page 38.

If negatives are especially made indoors for this purpose, use a plain white background. That eliminates the need for outlining and opaquing the foreground negative.

If the foreground negative is composed of a light-colored subject against a black background, a negative with a more interesting background may be sandwiched with the foreground subject in the negative carrier or printing frame, and a straight print made from the double negative.

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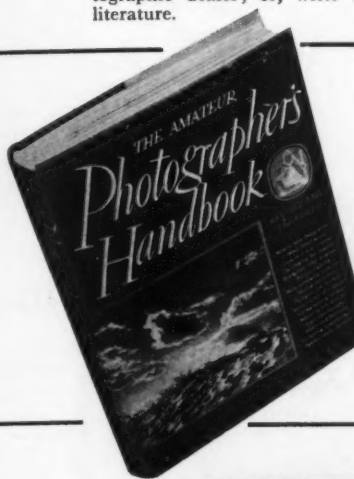
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BUR

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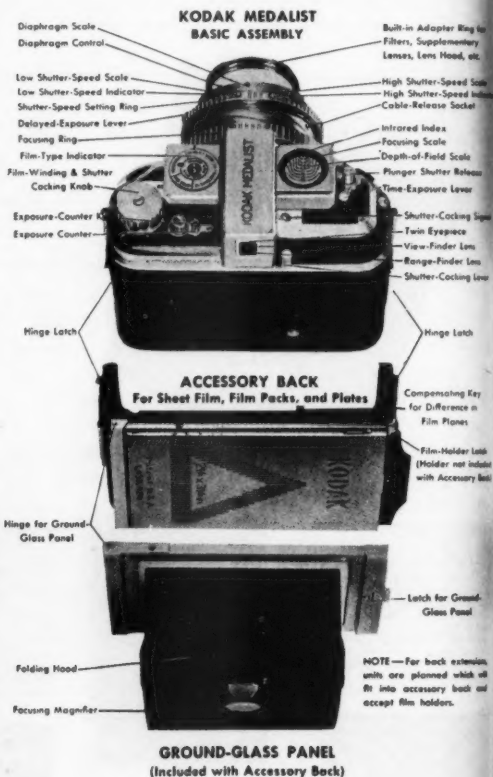
The Kodak Supermatic No. 2 shutter has blades of thin, low-inertia spring steel. Base plate and all gears are of nickel silver or stainless steel. Shutter's nine speeds are from 1 second to 1/400 second. A delayed-exposure mechanism is built in.

The Medalist's lens support, two helically interthreaded tubular members, is operated by either the focusing ring or a micro-focusing knob for precise adjustments. The depth of field scale and range finder are coupled to the lens.

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Made in the U.S.A. by Eastman Kodak Co., Rochester, New York.

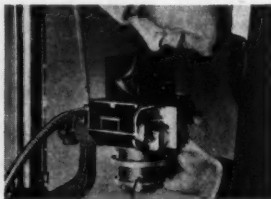
(Additional New Products on pages 109-112)



THE KODAK MEDALIST, above, takes full-size pictures on 2 1/4 x 3 1/4" roll film. With the accessory back it uses either black and white or Kodachrome cut sheet film or film packs. Camera has operating refinements of a precision miniature.



AS a hand camera, the Medalist operates in same manner as a precision miniature.



ON Kodak Stand Assembly, the Medalist focusing back converts it into a copying camera.



THE micro-focusing knob, shown in use below, provides exact focusing on ground glass panel.

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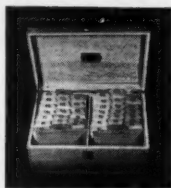
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Film Nos.	File No.	Price	Refills	Envels
35 mm. 828 and 127.....	"35"	\$1.25	\$0.90	\$0.60
120, 620-21/4x3 1/4 negs.....	"30"	1.25	.80	.70
120, 620-21/4x2 1/4 negs.....	"24"	1.25	.80	.70
620-strips of 3-2 1/4 eqs. or 4-2 1/4x1 1/4.....	"22"	1.50	1.10	.90
118, 818, 130, 118, 124, 541, 818, 122.....	"18"	1.35	.90	.75
523 and 4x3 cut film.....	"45"	1.50	1.15	.90
8x7 cut film.....	"37"	1.75	1.40	1.15

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It's Better With Makeup

(Continued from page 54)

The color should be heaviest above the lashes. Do not, however, blend this color near the eyebrow.

Do not change the eyebrows from their natural form. They are so closely related to the other features that they must always appear natural and follow the same contour as the upper lid when the eye is looking directly ahead. Never pluck the main body of an eyebrow. Remove straggly hairs interfering with a tailored effect and any hairs between the brows. Thin, artificial-looking eyebrows are not only unbecoming, but also out of fashion.

In making up the eyebrows, use a dark brown pencil. It is dark enough for any

subject. Start the eyebrow directly above the inner corner of the eye. When eyebrows are brought down together there is a tendency to pull the nose up, but if they are kept out and away from the nose, the nose is restored to its natural line. The eyebrow is then brushed with the eyebrow brush against the natural trend of the hair and then brushed back gently into place. This will obviate the unnatural look so often seen.

● THE LIPS are the most sympathetic feature of the face. Thin lips never look becoming. Cupid's bows are dated. Note the distance between the base of nose and the lip line. If this distance is unusually long the lip line is thin. If it is very short the lip is thick or full. These characteristics that form the expression are worth noting. The lips, both upper and lower, should be full, and in good proportion to the shape and contour of the face.

If the subject has well shaped lips retain the natural line. Thin lips are seldom beautiful and a new line is often used to make them appear fuller. On the other hand, over-full lips are often covered with the foundation color and then thinner lips defined. Whenever these corrections are made, the new line should follow the natural contour of the lip so that the correction is not obvious. Remember that when make-up is apparent it is no good.

The most insignificant change of the shape of the lip line alters the entire expression. No definite rule can be made on how to shape a lip line or an eyebrow. Study the natural lines for their effect on expression. Change those that you feel are unbecoming. When you have achieved a result that does look becoming, the lines are correct. If they do not look becoming, the chances are that their form and shape are out of proportion to the other features.

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Director of photography of the famous Art Center School, Los Angeles, is here shown using the Baby Keg-Lite and Foco Spot Attachment for a professional studio photoportrait.

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Like its big brother the "Baby-Keg" (shown above) the low-priced "Dinky-Inkie" (shown at right) is correct photographically and optically. It gives a soft, clear, even field of amazing intensity and with the patented instant-focusing device permits instant focusing from flood to spot. Heat resisting fresnel lens, 5½ in. diameter, 7 in. high, wt. 2¾ lbs., 15 ft. cord. Price.....\$12.00



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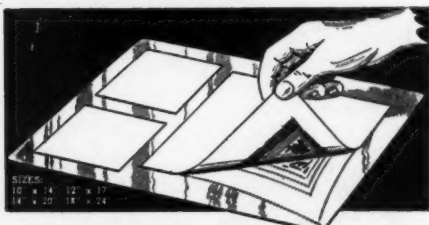
A time-saving attachment for the Dinky-Inkie or the Baby - Keg. Shades camera lens. Does away with make-shift shades and "goboes." Price, \$2.50.



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sharp photographs would reveal those imperfections of skin and coloring that escape the eye. All the advantages of spotlighting are retained and hours of tedious negative retouching are thus eliminated, by the application of make-up.

● IN SELECTING make-up for the various complexions, the colors are determined by the complexions. Brunettes can use a lighter make-up, blondes a darker make-up. This retains the *natural contrasts* between hair and skin in the black and white photograph. In blondes particularly, where the hair is very light, a dark make-up accentuates the photographic contrast.

The form, the shape and the proportions of the features and the colors of the complexion go to make up the physical personality of the face. When any of these features are altered with make-up the *expression* is changed.

In dressing the hair, remember to keep it away from the eyes. The one exception to this rule is a broad face that must appear narrower. Even in this instance be extremely careful. Hair pulled forward has a tendency to bring the eyes together and reduce the space between the eyes. The hair line should be the reverse of this and should not be dressed closer than three-quarters of an inch to the outer edge of the eyebrow.

As you look at the model, with an opened kit of make-up tools* beside you, it suddenly and magically dawns that with make-up you can do anything, anything at all to this person. A witch ready for her broomstick, a virgin in her graduation dress, an old virago bent with toil sleep but lightly in the make-up box.

When your picture has a point, when

* Various firms offer complete make-up kits, including: The Anatole Robbins Prismatic Make-up Kit in two types, one for black and white and the other for color. Each sells for \$5.00 in a 7 1/2 x 10" wooden box. These kits are distributed by Oxford Products, 1010 South Olive St., Los Angeles, Calif. The Hampden Powd'r-Base Photographic Make-up Kit, selling for \$2.00, contains materials and instructions for make-up for black and white photography, is distributed by Hampden Sales, 251 Fifth Ave., New York, N. Y. Max Factor, 1666 North Highland Ave., Hollywood, Calif., offers complete make-up kits at varying prices. Miner's, 12 East 12th St., New York, N. Y., supplies a kit for Kodachrome make-up at \$2.50.

you take a portrait that means something to you because you actually created it, then the compositional forms, too, have a point. You don't merely select an "L" composition just because it is an "L". Rather, you select a form that compliments your subject. You don't just "use a spotlight because all the best people do"; but you use a spot to get the crisp shadow and the clean white that gives your meaning wings.

Develop your instinct for what is becoming and beautiful in art, and you have acquired the most important single talent of a fine make-up artist, and photographer.

Your First Darkroom

(Continued from page 29)

are millions of natural darkrooms everywhere in which even the most ticklish photographic operations may be undertaken. The amateur needs complete darkness just once: when loading exposed film into a "daylight" developing tank (though there are now two which may be loaded in broad daylight), and it has always seemed to me the height of folly to provide a room which is *always* dark—and badly ventilated, and stuffy, and damp—for the sake of a job which takes up less than 1% of the time we spend in it.

"Portable" Darkroom. When pitch darkness is required, a changing-bag can always be used. Made like an opaque shirt with no opening for the head, but with sleeves through which the operator's hands enter, and with a lower end closed by buttons or by a zipper, it provides a tiny darkroom anywhere and everywhere. I have used such a bag all over the world, not only in my own darkroom, but in apartments and hotel-rooms, at sea, and in the open fields. I have used it not only to transfer film into developing tanks, but to deal with film-holders and magazines, and to investigate, with safety, why a still or movie camera refused to operate.

The simplest darkroom for film processing, therefore, is the changing-bag—cost \$3.75 up—because once the tank has been

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loaded, all subsequent operations may be conducted in the light. The enlarging machine, however, and its accompanying apparatus, cannot be tucked into a changing-bag, and something approaching a darkroom is necessary. If too much light enters during the day, it need not worry us: unlike the professional, we can wait for nightfall; and even if there is no running water, we can get along nicely with a pitcherful and a jar into which to discard it. Bearing in mind that we shall need only a corner of whatever room we select, let us consider where we shall perform our operations.

Attic vs. Cellar. In most country houses the cellar is the worst choice. It is often damp, the ceiling may be low, and even when an oil-burning furnace is installed, it may be dusty. (I have, however, visited one amateur cellar darkroom which cost, air-conditioning and filtering included, over \$5,000.) The attic is better, and is the most frequent choice: while the extremes of temperature are greater, and the thermometer in my own attic darkroom ranges from 50° to 90° Fahrenheit, according to the season, there is little or no dust, the air is dry, the privacy is complete, and if the heat is too great, I can wait for a night when it is not. Still better is a corner of a main-floor bedroom, not too far from a bathroom, while often best of all is such a corner in the kitchen or in the laundry. Not only are these last rooms equipped with running water, but they are deserted after dark, and in the country are frequently so large that a few square feet may be boxed in and permanently set apart for photographic purposes.

In a city apartment house, neither attic nor cellar may be available; but if the kitchen is roomy, a corner will suffice, while if it is not, a corner of any bedroom will answer. There is virtue in simplicity and in buying only what is absolutely indispensable: the fewer our pieces of apparatus, the easier it is to set up shop, and the easier, also, to put everything away when the evening's work is over.

Simplest Darkroom. On page 28 is a diagram of the simplest darkroom. I know it well because it is the outfit with which I started. Next to the enlarger are developer and short-stop trays: I suggest we begin with small trays and small prints, so as to gain experience cheaply. Next comes a vessel for hypo, for which I strongly recommend an enameled metal vegetable dish with a lid of the same material. If the dish is left covered when not in use, the hypo will not evaporate, nor will flies drown themselves in it. In a table drawer we may keep our supply of paper.

The bill for the outfit, ready to make enlargements is tabulated on page 29. Excluding the cost of the enlarger, the total comes to less than \$4. Additional desirable items may include rubber apron (79 cents up), oil-cloth to cover the table, a bit of discarded linoleum to go under it, and a few 5-cent towels, one of which will protect the enlarger from dust when it is not being used. No allowance is made for the cost of bottles, as those which have held soft drinks will answer (if at once labeled!). For handy cut-out labels, see the Clip Sheets, pages 48-49. The acetic acid and the liquid preparations come in their own bottles, we need only one more for our developer stock solution, and one or two will store our hypo—unless we can conveniently leave it in its tray.

My own first darkroom, above described, was located in a guestroom—out of which I could move in a hurry, but out of which I moved permanently when an addition to our family arrived. I went to the attic, and the next darkroom was almost as simple, but I added a cheap china cabinet to store chemicals, a growing stock of trays and accessories, and larger sizes of paper. As there was no running water, I kept a pitcher of water under the table.

My next darkroom added a sink with counters at either side of it.

The sink, 20"x36", with three cold and one hot water faucets, a trap, and all plumbing, cost under \$20 installed, since it was directly over a bathroom, and but a few feet of pipe were needed to make

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connections. A carpenter built the count-
ers, separated by a cradle in which the
sink rests, and toward which the counter
slope, using yellow pine 2" x 2"s and
cheaper material for surfacing, in less than
a day.

A tinsmith covered the counters with
sheet zinc, raised at the edges, to prevent
liquids from escaping to the floor, in an-
other day, and I finished the job myself
by applying several coats of chemical-
proof paint. It will be noted that the
"darkroom" had no walls, hence could be
used only at night, and that when the
moon shone brightly, it was desirable to
place screens at the attic windows; but the
total cost of the "room" in which I easily
finished 11"x14" prints was in the neigh-
borhood of \$50, and probably would not
have been very much higher in localities
where labor is more expensive.

A "straight line" arrangement is con-
venient in all processing. My prints travel
in one spiral direction from the enlarger,
to the developer, to the short-stop, to an
11"x16"x5" hypo dish (\$1.39; an enam-
eled steel "counter tray," 59c, serves as a

APPROXIMATE PRICES OF FILM DEVELOPERS

* Prices are for quart size unless otherwise noted
GENERAL DEVELOPERS

Maker and Name of Developer	Approximate Price*
Agfa No. 47 (gallon) .....	.45
Agfa No. 103 .....	.25
Agfa Rodinal (16 oz. concentrated liquid)	1.70
Defender 6-D .....	.30
Defender 54-D .....	.35
Eastman D-7 (gallon) .....	.30
Eastman D-11 .....	.35
Eastman DK-50 (gallon) .....	.45
Eastman D-72 .....	.25

FINE GRAIN DEVELOPERS

Maker and Name of Developer	Approximate Price*
Agfa Finex (liquid: 16-oz. developer, 16-oz. re- plenisher)	2.75
Agfa 17 (powder) .....	.25
Champlin 17 (liquid: 16-oz. stock solution)	1.50
Defender Panthermic 777 (powder: 16-oz. base, 8 oz. replenisher) .....	.75
Defender Panthermic 777 (liquid: 32-oz. base, 16-oz. replenisher)	1.90
Dr. Charles' (liquid)	1.25
Eastman D-76 (powder) .....	.25
Eastman DK-20 (powder) .....	.50
Edwal 12 (powder) .....	.70
Edwal 20 (powder) .....	.70
Edwal Minicol (powder) .....	.95
Edwal Minicol (liquid)	1.50
Edwal Super 12 (liquid)	1.25
Edwal Super 20 (liquid)	1.25
Edwal Thermo-Fine (powder) .....	.30
Pink-Roselevere GDX (liquid)	1.10
Pink-Roselevere X-33 (liquid)	1.85
Pink-Roselevere X-33 (liquid)	1.85
Harris-Seybold-Potter Refract-O-Grain (40 oz. liquid)	1.85
Mansfield Micrograin-85 (powder) .....	.80
Mansfield Micrograin-85 (liquid)	1.50

lid). Thence they pass into the sink, fitted with a Kemp print washer (\$1.35), for a preliminary wash which removes excess hypo, and they continue into a 16"x20" enamel tray (\$2.59) fitted with an Eastman tray siphon (\$3.90). They are passed through a wringer and dried on cheese-cloth stretchers.

Walls were added later—after endless experimentation had convinced me that the arrangement of the interior was the best to be had—but they were walls which stopped short of the roof, for while ample shelf-space was wanted, excess light was never a problem, enlarging being possible at any hour, and adequate ventilation was important.

I describe what I now possess as an "installment plan darkroom." It began with a table. It grew slowly as my interest in photography increased. At no time was I faced with a considerable expense—and I know of no other manner in which a similar sum of money could have been made to yield so many pleasant, productive evenings.

Watch Your Film Develop

(Continued from page 30)

to permit giving additional development time to some of the negatives.

Besides, inspection development gives control in negative processing that is usually associated only with print developing. When negatives are underexposed prolonged development will give increased contrast and the effect of added film speed.

Increased development time increases the contrast of a negative. This is especially valuable with pictures taken in dull or flat lighting.

Decreasing development time lessens the contrast of a negative. Harsh sunlight, deep shadows, or flash subjects are intrinsically contrasty and require relatively less development time.

If you try inspection development you will find it a pleasure adding a thrill to photography.



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- Because throughout the book the author has placed emphasis on the practical rather than the theoretical side . . . and has ignored involved mathematics, logarithmic curves and mysterious looking graphs.
- Because at the end of each chapter the author has given a series of experiments that serve to amplify the text and make the knowledge an unforgettable part of the reader's learning.
- Because an actual perfect negative is included in the book so that the reader may check his own printing technique and perform the experiments given in the book.
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Ten Commandments

(Continued from page 24)

work as much painstaking effort as you must be prepared to give to the technical, you cannot fail to impress the stamp of your personality on your finished product. The greatest pitfall to your progress is the uncritical delight over a good print whose subject is uninteresting to anyone but yourself.

In closing, let me remind you again that meaningless detail is not enough, that personal anecdotes are not enough, unless you are satisfied with the astringent pleasure of pointless virtuosity.

I will be glad to answer questions addressed to me in care of MINICAM. In the meantime, I commend to your careful study, on these pages, a few illustrations of the kinds of pictures which editors look for, nay, pray for and welcome with open arms.

New Lamp Sees in the Dark

(Continued from page 73)

targets. The distances of the targets from the lens is measured and then noted with the relative sharpness on the developed film. This test may be made outdoors or with flood lamps, but a red filter must be used on the lens.

While infra-red flash shots can be very valuable in certain circumstances, it is not a substitute for other types of pictures. The actinic value of the infra-red lamp is less than that of the uncoated lamp. This means that practical working distances are limited to about 15 feet.

Blackout flash lamps are excellent for close up shots, portraits, etc. The harsh, contrasty results usually associated with infra-red may be minimized by overexposing and then developing in a soft-working developer.

The new blackout lamp makes possible and completely practical, for the first time, instantaneous photography in total darkness with invisible light. The proverbial black cat in the coal pile can be photographed without his even knowing he has been pictured.

Washing Prints

(Continued from page 47)

(3) There are three normal methods of washing. The first is the best and the second is of little use.

(A) Mechanical washing with running water. This includes "automatic syphons" and other mechanical washing equipment that ensures good circulation and rapid changing of the water, as well as agitation and separation of the prints.

(B) Tray placed under faucet of running water, (mentioned but not recommended).

(C) Tray with still water, from which water is drained and replaced with fresh water every five minutes.

(4) Do not allow prints to clump together during washing. Separate them frequently. Larger prints will stay fairly well separated if alternated in the wash (face up, face down, face up, etc.).

(5) Do not allow a print containing hypo to dry with the intention of washing it well later. It is almost impossible to wash hypo out of a dried print.

(6) Bear in mind that hypo test solutions on the market are only tests for the presence of hypo in the wash water. Continue washing for another ten minutes after getting a neutral test. Or better still, use the hypo eliminator formula given below.

(7) Make certain that your drying equipment is clean and free of hypo. Blotter rolls, blotter books, or plain blotters may become contaminated with hypo if even one poorly washed print is placed on them, and the hypo will be transferred to subsequent prints.

It has been proven that no amount of washing will remove all of the hypo from a paper print. The tiny amount which remains after proper washing may be removed by using the following formula which was recently developed by J. I. Crabtree, and prints will thereby gain greatest permanence.

HE-1 Hypo Eliminator Solution

	AVOIR.	METRIC
Water	16 ounces or 500 cc.	
Hydrogen Peroxide (3% solution)	4 ounces or 125 cc.	
Ammonia water (3% solution)	3 1/4 ounces or 100 cc.	
Water to make	32 ounces or 1 liter	

(This is sufficient for about twelve 8x10 prints or their equivalent).

DIRECTIONS: Wash prints for thirty minutes (double weight prints for one hour) in running water between 65°F and 80°F. Then place prints in hypo eliminator solution for about six minutes at 70°F. and agitate well. Rewash

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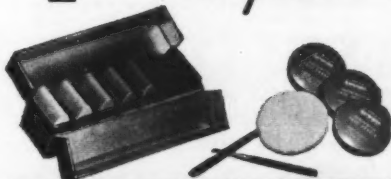
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about ten minutes in clean running water, and dry.

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But the pictures you want to keep permanently—may we see them 10 years from now?

The Flexichrome Process

(Continued from page 55)

does not have to be a skilled painter to do a first rate job. It is easily and speedily handled. A good Flexichrome print reproduces well, so it has excellent possibilities for the commercial photographic illustrator.

The heart of the process is the use of a special film for making the black and white print. It provides a gelatin relief surface that semi-automatically accepts or rejects colors according to the values of the picture.

The film used is Flexichrome Positive Relief Film. A black and white enlargement is made on this from any negative in the ordinary manner. The Relief film is backed with a liquid paper. The result is a black and white print that looks and feels like paper, but responds quite differently to color.

Flexichrome colors are applied with an ordinary brush. The gelatin relief image does the rest. Mistakes are not serious because a print may be colored and re-colored again and again indefinitely even using different color schemes if desired.

Flexichrome materials may be purchased individually or in kit form, (\$6.00). Flexichrome film is available in sizes from 5x7 inches (\$1.95 per doz.) to 20x24 inches (\$15.30 per 6). Instructions are set forth in a Flexichrome Booklet (15c).

The most important part of any kind of pictorial art is draftsmanship. When the drawing in any picture is strong, it

looks convincing. Color is disturbing unless it is governed by the drawing. With lens and camera anyone can achieve excellent photographic definition.

When it comes to coloring this photographic drawing on Flexichrome, you might start out making the sky blue, the grass green, and the girl's dress red, by simply using flat, solid washes over these areas. Blotting these colors leaves them modeled into their proper scale of values from white highlights through middle tones and dark shadows. The coloring is governed by the quality of the photographic drawing on the print. By using the rinse solution to remove any colors, a single print may be worked over and over again. It is easy to experiment without spoiling your chances of producing a finished picture on your first print.

Build It Yourself

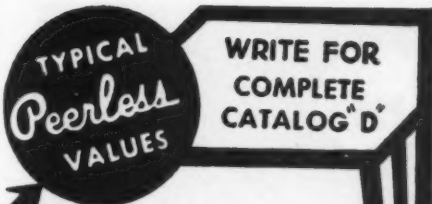
(Continued from page 74)

clock hands. The next wheel (No. 3 on Fig. 1) drives wheel No. 4 which actuates No. 5. This No. 5 wheel is the baby that loses 15 of its 16 teeth.



Fig. 1.

The escapement levers which see-saw back and forth against this wheel are attached to a toothless balance wheel with its hair-spring. The hairspring bounces the balance wheel back, the escape levers alternate their contact with the fifth wheel and another second ticks off into eternity. If all but one tooth is removed



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from wheel No. 5, the speed of the clock is increased 17 times!

A small rat-tail file removes these teeth in less than an hour's work. If you have an electric grinding tool or a flexible shaft drill, you can do the job in three minutes. I used a file as illustrated in the drawing.

Hold the balance wheel steady with the aid of a toothpick, or pull out the axle pin and remove the wheel for convenience in filing. File off 15 consecutive teeth, carefully avoiding injury to the remaining single tooth.

When the extra teeth have been removed, turn the clock on edge and wind it a little. The tick now is louder and more distinctly divided into seconds. The minute hand jerks along from "12 to 1" in 17 1/2 seconds instead of taking the customary 5 minutes. It goes all around the face in 3 1/2 minutes instead of an hour. The hour hand makes a complete circuit in 42 minutes instead of 12 hours. That is why the new dials are needed.

The two dials printed here can be placed over the old ones. The larger will fit any common alarm clock. The smaller one printed in the center of the large dial is cut out and placed over the alarm-setting dial.

Storing Developer

Four 4-ounce bottles with air-tight bakelite screw-on caps and a 16-ounce bottle with the same type of cap make a perfect set for storing 32 ounces of developer when darkroom work is done infrequently.

The quart-size can of developer powder is mixed in the usual manner. Then each bottle is filled clear to the top and the cap screwed on tight.

In use, the contents of one of the 4-ounce bottles is mixed with from 8 to 16 ounces of water, according to the strength of developer desired. This makes the preparation of developer for an evening of printing even simpler than when using M-Q tubes.

After the four 4-ounce bottles have been emptied, pour the contents of the 16-ounce bottle into the four smaller bottles. Fill each to the top again and screw the caps on tight. In this way the solution can be stored in a cool, dark place for months without serious deterioration.

When the last 4-ounce bottle is emptied the second time, mix up another quart and start over again.—George C. Lau, Hong Kong, China.

GADGETS, KINKS AND SHORT CUTS

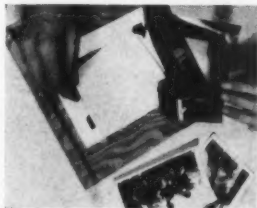
Non-Skid Tripod Tips

Rubber crutch tips, sold at drug stores and dime stores, do away with the annoyance of slipping tripod feet. Purchase a set of three, and slip one on the end of each tripod leg. The rubber tips also prevent sharp-pointed tripods legs from scratching floors.

Enlarging Easel

This simple enlarging easel utilizes a base of plywood. Focusing is done on a piece of white bristol board cemented to the base. Art photo mounts mark the position for the projection

paper and hold it firmly in place. A Kodaloid or accurately-cut paper mask, hinged to the board with Scotch tape, masks the print perfectly and provides a white



border. A heavy rubber band keeps the easel from slipping when paper is inserted.

One of these easels for each standard size of paper used may be kept on hand, eliminating the need for a professional easel where only a few prints are turned out.—Donald Sternbergh, West Lawn, Pa.

Economy In Tank Developer

When developing small films in certain types of adjustable cut film or film pack tanks, the unused space makes it necessary to use an excessive quantity of developer to cover the films completely.

Small-size medicine bottles, filled with water and sealed tightly, can be used to replace some of the unneeded developer.



After the film compartment has been adjusted to the correct size for the small films, fill several small bottles with water at the same temperature as the developer and insert them in the space between tank wall and partition, as shown in illustration.

This enables one quart of developer to cover the film, since the unused space is already filled up.—A. W. Elchin, Cleveland, Ohio.

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Backgrounds for Small Objects

Photograms make unusual backgrounds for use when photographing small objects such as china figurines, flowers, etc. Cut the desired pattern out of opaque paper, and place it on a sheet of 8x10" or 11x14" sensitized paper. Either contact or enlarging paper may be used.

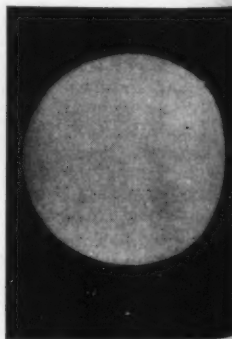


Expose the sheet sufficiently to get a dark gray or black tone on the area not covered by the opaque paper.

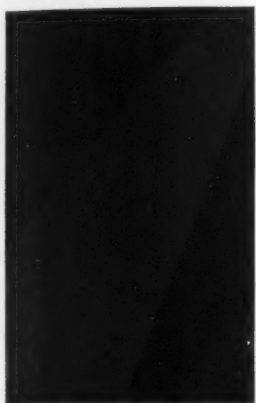
Remove the design and expose the paper again for a shorter time to give the pattern a gray tone. Develop as a regular contact print or enlargement. After fixing, washing and drying the background is ready. Sheets as small as 5x7" may also be used successfully.

A circular design gives the same effect as a spotlight directed against a dark background. It was produced by laying the circular cover of an oatmeal box on the paper.

The ray of light effect used above as a background for the small figurine was obtained by holding a piece of cardboard cut that shape about half an inch from the paper during part of the



exposure. It was moved slightly during the exposure to prevent sharp edges. The entire sheet



was then exposed for a second or two to darken the light area slightly. This keeps it from appearing too brilliant.

The effect of cross rays of light (below) was made by using this same piece of cardboard in two different positions. After one half of the exposure was given, the light was turned off and the cardboard moved to the second position and the rest of the exposure made. A brief exposure was then given to the entire sheet.



To produce more complicated designs, combine various shapes such as stars, hexagons, diamonds, etc., printing them in various shades of gray against a black background.

These backgrounds may also be used in combination with a figure cut from a snapshot which has an unwanted background. Smooth the edges of the cut-out figure and paste it on the background. When copied, the result is often similar to a studio portrait.—Paul Hadley, Piggott, Arkansas.

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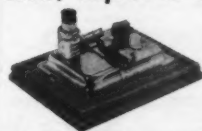
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Add Sound To Your Movies

(Continued from page 67)

be changed, unless the change can be made quickly on the one table, fading the music out with the volume control, changing the record, and fading the new one in, to avoid awkward breaks in the music. Professional set-ups, where such conditions are frequently met with, generally have three turntables and pickups. Thus a 12-inch record, of which only the last few bars are required for the end of the film, may be permitted to run for the last five minutes, while changes of music are made on the other two tables. On the cue, just before the end, the other two tables are faded out and the third one brought in, just in time for the last few bars, simultaneously with the final title.

To score an entire film by this method, it is first necessary to run the film, and get the exact time, in minutes and seconds, from the starting point to each cue. Then each record is individually timed for starting points, and a cue sheet is prepared, as follows:

TIME Min. Sec.	DIRECTIONS	CUE
0 0	Start record No. 1, fade in sound	
0 6	Start Projector	Main Title
1 19	Start record No. 2	
1 26	Fade out record No. 1, in on No. 2	Title—"Egypt..."
3 33	Start record No. 3	
3 56	Fade in record No. 3 (on table 1) and out on record No. 2	Title—"We Leave"
4 27	Start record No. 4 (auto noise)	
4 34	Fade in record No. 4 (table 2) and mix with record No. 3	
4 55	Fade out auto noise, music from table 1 continues	
5 18	Start record 5	
5 24	Fade in record 5 (table 2) and fade out table 1	Title—"Through the..."

and so on to the end of the film. . .

The smoothness and accuracy of this method has to be heard to be believed. Its best recommendation is the fact that, with few exceptions, most commercial recording studios use this system to spot

RUNNING TIME (for 8mm. Film at 16 frames per second**)		
Min.	Seconds	Ft. & In.
1	0-2 1/2"	
2	0-4 3/4"	
3	0-7 1/8"	
4	0-9 1/2"	
5	1'	
6	1-2 1/2"	
7	1-4 3/4"	
8	1-7 1/8"	
9	1-9 1/2"	
10	2 ft.	
20	4	
30	6	
40	8	
50	10	
60	12	
1	12	
2	24	
3	36	
4	48	
5	60	
6	72	
7	84	
8	96	
9	108	
10	120	
20	240	
30	360	

**There are 80 frames in one foot of 8mm. film.

RUNNING TIME (for 16mm. Film at 16 frames per second*)		
Min.	Seconds	Ft. & In.
1	0-4 3/8"	
2	0-9 1/4"	
3	1-2 1/8"	
4	1-7 1/8"	
5	2'	
6	2-4 1/4"	
7	2-9 1/4"	
8	3-2 1/8"	
9	3-7 1/8"	
10	4 ft.	
20	8	
30	12	
40	16	
50	20	
60	24	
1	24	
2	48	
3	72	
4	96	
5	120	
6	144	
7	168	
8	192	
9	216	
10	240	
20	480	
30	720	

*There are 40 frames in one foot of 16mm. film.

RUNNING TIME (for 16mm. Film at 24 frames per second*)		
Min.	Seconds	Ft. & In.
1	0-7 1/8"	
2	1-2 1/4"	
3	1-9 1/8"	
4	2-4 1/8"	
5	3'	
6	3-7 1/8"	
7	4-2 1/4"	
8	4-9 1/8"	
9	5-4 1/8"	
10	6 ft.	
20	12	
30	18	
40	24	
50	30	
60	36	
1	36	
2	72	
3	108	
4	144	
5	180	
6	216	
7	252	
8	288	
9	324	
10	360	
20	720	
30	1080	

*There are 40 frames in one foot of 16mm. film.

RUNNING TIME (for 35mm. Film at 24 frames per second***)		
Min.	Seconds	Feet
1	1 1/2	
2	3	
3	4 1/2	
4	6	
5	7 1/2	
6	9	
7	10 1/2	
8	12	
9	13 1/2	
10	15	
20	30	
30	45	
40	60	
50	75	
60	90	
1	90	
2	180	
3	270	
4	360	
5	450	
6	540	
7	630	
8	720	
9	810	
10	900	
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30	2700	

***There are 16 frames in one foot of 35mm. film.

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With the growth of home recording as a hobby, a great many inexpensive disk recorders, using acetate disks, have appeared on the market. Some units may be purchased for as low as \$20, to be attached to your own amplifier. Slightly more expensive outfits come complete with microphones, amplifier, and playback speaker. With such an outfit, short synchronized films may easily be made. Projection may be done, with the playback either on the original machine, whose speaker is placed on a chair directly under the screen, or on any phonograph. The same means is used to obtain synchronism as has already been described to synchronize a picture to a record already made.

● FOR COMMERCIAL and educational use, sound-on-film is, of course, essential. Such equipment is expensive, and for this reason, only a general outline of its use will be given here. Sound film recording is done by two methods, single and double system.

● THE SINGLE system, represented by the RCA camera and similar types, records sound within the camera that takes the pictures, on the same film. Synchronization is automatic, but the sound is recorded at a point 26 frames ahead of the pictures. This is done because, at the time the picture is taken the film is *not* in motion. As in a silent camera, the film is pulled down one frame at a time by the claw movement and held stationary for 1/30th second while the shutter is open. For recording sound the film movement must be steady. Hence in this camera, the sound is recorded at the continuously moving sprocket which forms the lower loop, 26 frames below the gate. The sound pickup in the projector is also 26 frames below the gate, hence the sound reaches the pickup at the same time the corresponding picture is in the gate, and syn-

chronism is perfect. While this system is the simplest, the fact that picture and sound are on the same negative is its greatest disadvantage.

When we cut the film and splice two scenes together we get into trouble. Cutting even with the first frame of the picture means the loss of 26 frames of sound heard *before* that point. When the splice is made at the end of the scene, 26 frames of sound belonging to the *following* scene are included. Close cutting of single system scenes is impossible.

The double system of recording eliminates this difficulty. In this system, the recording is done in a special recorder which contains no picture mechanism. The picture is taken with any type of cine camera. Both camera and recorder are run by special motors which will remain accurately in step, frame for frame, for the entire roll of film if necessary. The picture is photographed on one piece of film, and the sound track on another. Provided the starting points have been properly marked, it is possible to cut picture and sound equally, and keep them always "in sync," without the loss of any sound.

When the picture and sound track have been completely assembled, the starting points are clearly marked on the leader, and the two sent to the laboratory for a print, or a duplicate, depending on whether negative or reversal film is used. The laboratory first prints the picture on the raw stock, using a conventional picture printer. The film is rewound to the starting point without developing, and in a different type of printer, the sound track is printed onto the same film. The starting point of the sound track, however, is set 26 frames ahead of the marked start of

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the picture, thus providing the advance for proper synchronizaton in the projector.

Sound film is always shown at the rate of 24 frames per second, and the time in minutes and seconds may be figured on this basis. The most accurate way is to measure the film with a footage counter, and figure time accordingly, remembering that 16 mm. film at 24 frames per second is running *36 feet per minute*, 18 feet in 30 seconds, 9 feet in 15 seconds, 3 feet in 5 seconds, etc. (See Tables on page 99.)

Sound on film is not yet available for 8 mm. film, but the various disk methods described here are just as practical with 8 mm. projectors as with the 16 mm. size.

We Were Sunk By A Raider

(Continued from page 18)

Murphy was meanwhile dashing out on deck between shell salvos (these were at 10-second intervals) and dashing back to join me, flat on the floor of our cabin. We struggled into our life-belts, after pulling trousers on over pajamas, and beat it for the port side, where our boats were already lowered.

At this hour, and with the just-rising sun on the other side of the ship, there was little light on the boat-deck. It was impossible to rig a flash, both because time was at a premium and because of justifiable fear of annihilation by already near-hysterical shipmates.

I made several shots of fellow-evacuees with the Rolleiflex wide open at a fifth, then walked around to starboard and rested the camera on the rail to make the raider, which was still so far away as to be only a speck on the ground glass. Back on our side, I snapped a few people going down the ladder, changed film, dumped the camera into the bag, slung the bag over my shoulder and climbed down to the heaving boat, just in time to see Charlie Murphy slide down a rope past me.

The lifeboat was not designed as a photographic studio. It carried 23 people, all as uncomfortable and with mouths as parched as mine. I fished the Rolleiflex, which was now coming apart, out of the

bag and must have made several shots of the heavily listing *Zamzam* and the other lifeboats, in spite of the protests, in Arabic, of the Egyptian dining-room steward who was trying to operate the rudder.

Fig. 1 shows the *Zamzam* listing to port as lifeboats leave. It was taken at 6:20 a. m. from the stern, portside, of our lifeboat with one of our four oars showing. Shakiness of the shot again indicates the fact that the light was still bad and I had to shoot slow and wide open—actually about $f/5.6$ at $1/25$ second. The sun is directly behind the *Zamzam*, just rising. All shots in the boat were tough to make, too, because we were all jammed in so close together, also because the Egyptian crew, probably rightly, didn't think it would do us any good if anyone on the raider saw us with cameras.

I took a picture of the raider *Tamesis* as she came looming up about 300 yards away—then put the camera away and locked the case, after taking out all the film. She looked like an ordinary moderate-size freighter of about 7,000 tons. I remember vaguely an argument with Charlie, who shouted back from the bow of our boat to take a picture of the raider.

"I got one," I answered.

"Well, get another!" No one had ever published a picture of a Nazi raider in action on the high seas. It was the one picture the Nazis would be most anxious to suppress.

"One picture's enough." I didn't want anyone on the raider to see a camera when they swept us with binoculars to see what sort of mess they'd fished up.

But later I wasn't sure about making the raider picture. I worried about it for two and a half months until I saw it lying on Managing Editor John Billings' layout table in New York.

On the raider, we identified ourselves and were invited to take a roll of pictures (whoever had a camera and film) under the careful supervision of armed guards. When the *Zamzam* was finally mined and sunk we were again invited to take pictures. A Nazi aide-de-camp who appar-

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ently also was the official ship's photog-
rapher indicated a good position on the
midships hatch: "The angle here is best—
you can get your boat sinking and your
own people in the foreground by the rail
watching. Set it about 35 feet and stop
down to about f11." And he set his own
Contax accordingly and went busily to
work. Then he took all our film, marking
our names on the roll . . . "You will get it
back later."

That night he brought down my case
and again invited me to take some stuff
below decks where about 340 of us were
jammed in a windowless, bunk-filled hold.
Then away went the case and all the film.

Previously I had slipped the precious
four rolls on the sinking, the lifeboats and
the raider to Charlie Murphy. In the heat
of the moment, we were never carefully
examined for hidden articles, nor were we
ever after searched, although dire threats
were made that we would be. It was in-
teresting to remember that Murphy sat in
the raider Captain's cabin for their first
official meeting, with the four rolls nesting
in his pajama pockets.

The next day we were transferred to the
prison-ship *Dresden*. Murphy arranged
with the captain for exclusive rights for me
to shoot our daily activities—but the cam-
eras which the German aide-de-camp had
promised he would bring aboard could not
be found. I borrowed a Rolleiflex belong-
ing to the Rev. V. Eugene Johnson, a first-
rate photographer himself, and we took
turns using it. The ship's purser had at-
tached our stock of film, and issued it to us
daily, to keep track of the number for later
censorship.

After nine days wandering in the South
Atlantic, we met the raider again. My
cameras were discovered in an ice-box
well below decks. The Rolleiflex was salt-
encrusted and broken. I managed to coax
it into some kind of operation, and it never
missed a frame. I also recovered, several
days later in another storage room, the
Heiland tripper that synchronized with it.
The Germans had stolen my Contax syn-
chronizer along with three Contax lenses

which had been in my Zamzam cabin. I knew they hadn't gone down with the ship, as the Germans had returned a focusing-cloth which had been in the bottom of the lens-bag.

We were on the hell-ship *Dresden* that was our prison for more than a month.

Missionary Johnson and I made over a thousand pictures and 750 feet of movies, none of which we were ever destined to see. When we got to Biarritz, we persuaded the authorities to let me develop our negative material, and a German corporal and I spent two days trying to find a studio that would handle it.

We finally made a deal with an old French photo-shopkeeper named Bady, who said he didn't care what we did in his laboratory and could bring the whole German army of occupation in to watch if we felt like it. The developer was an Agfa fine-grain, in a huge four-foot tank, and very old and tired-looking. Once Bady dropped a roll in the tank and fished for it with a pointed stick for 10 minutes while the rest of us went wild. His little "atelier" looked like a forest when we had hung up 94 Rolleiflex rolls, 10 Contax, and a dozen film-packs from my Speed Graphic—a total of about 1,600 exposures!

The next day my German corporal took all the film, put it in a hypo box 2 feet square, gave me a receipt for it, and that's

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City	Street Address	Dates Open	Name of Exhibition
Amarillo, Tex.	Tri-State Fairgrounds, Merchants Bldg.	September 29 to October 4; 10 a. m. to 12 p. m.	Second Annual Tri-State Salon of Photography.
Asbury Park, N. J.	Berkeley-Carteret Hotel.	September 4 to October 6; 9 a. m. to 5 p. m. and 6 to 9:30 p. m.	Salon of Photographic Prints.
Bay Meadows, San Mateo, Calif.	San Mateo County Fiesta.	September 18 to September 21: 7 to 12 p. m. September 18; 10 a. m. to 12 p. m. thereafter.	Second Annual Amateur Photography Salon of the Peninsula Camera Club.
Burlington, Vt.	The Robert Hull Fleming Museum.	September 1 to September 30; 2 to 5 p. m.	The Second Annual Champlain Valley International Salon of Photography.
London, W. I.	The Galleries of the Royal Society of Painters in Water Colors, 26-27 Conduit St., New Bond St.	September 13 to October 11; 10 a. m. to 6 p. m. except Sundays; Admission: one shilling.	The London Salon of Photography 1941.
New York City	British War Relief Society, Inc., 6 E. 57th Street.	September 2 to September 23; 10 a. m. to 10 p. m.; admission 25c.	The British War Relief Photographic Exhibition.
Reading, Pa.	Reading Public Museum, Westside Rd., Wyomissing Park.	September 14 to October 5; 10 a. m. to 4 p. m. weekdays; 1 to 4 p. m., Sundays.	Second Reading National Salon of Photography.
Weston W. Va.	Ralston's Drug Store.	September 7 to September 13; 2 to 5 and 7 to 9 p. m.	Ralston's Photographic Exhibit.
Yakima, Wash.	Central Washington Fair	September 25 to September 28; 9 a. m. to 10 p. m., Admission 25c.	Central Washington Photographic Salon.

SALONS

Closing Date	Name of Salon	For Entry Blank, Write to	No. of Prints & Entry Fee	
November 1	Tenth Annual Salon of Photography of the Minneapolis Camera Club.	R. L. McFerran, Salon Dir., The Minneapolis Camera Club, 113 South Sixth St., Minneapolis, Minn.	4	\$1.00
October 27	1941 Windsor International Salon of Photography.	Dr. F. S. Brien, Salon Chr., The Photo Guild, 1292 Victoria Ave., Windsor, Ont.	4	\$1.00
October 27	Yonkers Camera Club Ninth Annual National Salon of Photography.	Hubert L. Swapp, Dir., Yonkers Camera Club, Y. M. C. A., Yonkers, N. Y.	4	\$1.00
October 25	Fifth Rhode Island National Salon of Photography.	H. E. Hammond, Salon Chr., 103 Westminster St., Providence, R. I.	4	\$1.00
October 18	Sixth Annual 100-Print Travel Show of the Metropolitan Camera Club Council.	F. H. Rockett, Salon Dir., Metropolitan Camera Club Council, Inc., 106 West 13th St., New York City.	4	\$1.00
October 17	Second Petroleum Industry Photographic Salon of the Photographic Society of America.	F. Quellmaiz, Jr., P. S. A. Salon Dir., Room 2040, 50 West 50th St., New York City.	4	none
October 15	Philadelphia International Salon of Photography, 1941.	Hans Kades, Architects Bldg., 17th & Sansom Sts., Philadelphia, Pa.	4	\$1.00
October 15	Fortieth Anniversary International Salon of Photography.	Victor O'Dae, Salon Chr., Wilkes-Barre Camera Club, 131 S. Main St., Wilkes-Barre, Pa.	4	\$1.00
October 15	Fourth International Springfield Salon of Photographic Art.	John Funaro, Dir., 122 Middlesex St., Springfield, Mass.	4	\$1.00
October 11	West Virginia Annual Salon of Photography.	Salon Committee, 110-A McFarland St., Charleston, W. Va.	4	\$1.00
October 3	New York Salon of Photography, 1941.	Janet Weston, Salon Sec., 121 W. 68th St., New York City.	4	\$1.00
October 1	Pennsylvania International Salon of Pictorial Photography.	Mrs. Kenneth McLaughlin, Salon Sec., 3215 N. Front St., Harrisburg, Pa.	4	\$1.00
October 1	Third Annual Atlanta National Salon.	Mrs. George Bird, Salon Sec., 685 Morningside Dr., N. E., Atlanta, Ga.	4	\$1.00
October 1	First Annual International Salon of Nature Photography of the P.S.A.	Russell Gray, 1530 Locust St., Philadelphia, Pa.	in any one class	\$1.00
September 29	1941 International Salon of the P.S.A.	Photographic Society of America, 10 Park Ave., New York City.	4	\$1.00
September 25	Annual International Salon of the Victoria Photographic Association.	Alec Gamon, 468 Beach Dr., Victoria, B. C.	4	\$1.00
September 23	Central Washington Photographic Salon.	Norbert A. Barthel, Supt., Central Washington Photographic Salon, P. O. Box 898, Yakima, Wash.	4	50c
September 20	Fourth Annual Tri-State National Salon of Photography of the Burlington Camera Club.	Robert B. Prugh, Salon Chr., 317-319 N. Fourth St., Burlington, Iowa.	4	\$1.00
September 15	Second Annual Tri-State Salon of Photography.	Amarillo Photographic Society, 100 Fisk Bldg., Amarillo, Tex.	4	\$1.00
September 10	Second Annual Amateur Photography Salon of the San Mateo County Fiesta.	San Mateo County Fiesta Office, 72 Third Ave., San Mateo, Calif.	3	none

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the last we saw of it, except for a quick glimpse as it changed hands on its way to Berlin. And that was that.

Night before we left our prison-ship, I had reclaimed the four "hot" rolls from Charlie Murphy, filled the cores with hot rice to absorb moisture, and taped them up thoroughly. Two went into the bellows of the Speed Graphic, by way of the back, and the third went into a roll of Colgate's toothpaste. In Biarritz the two rolls came out of the back of the Graphic and went into an even more amateurish hiding-place, the bottom of a bureau drawer. They left there two days later and found their way into a tube of Palmolive shaving cream and a roll of gauze-bandage. What happened to them after that I can't say, but two weeks later I had them again, and

this time we were in a country that is still, for the moment, free—Portugal.

The films were sent ahead by friends who Clippered two days before us, and we cabled from the Azores to have *Life's* own official greeter and part-time "secret agent" to meet those films and keep them in a nice, safe place.

It was not until I arrived in the office the morning after the Bermuda Clipper brought us into Flushing Bay that I was sure the salt air, humidity of the equator and 117 steaming prisoners, the moisture of toothpaste and shaving cream, and the general bad handling had not damaged the three rolls of film made 50 days and 6,500 miles previously. It is quite a testimonial to Eastman's Super-XX.

It is unfortunate for the photographic journalist that most of his lucky breaks come from the catastrophies of others. The fact that most of my Zamzam shipmates lost their worldly possessions in full—and got nothing out of it but grief, and in three cases almost fatal injuries—keeps the whole episode from being a picture-taker's Sunday lark. Many amateurs ask me how I managed to make pictures in the middle of this hysterical mess. The answer to that is the answer to any tense photographic situation—given a certain small amount of preparation it is almost impossible to miss making them.

To end in a lighter vein, I hope the reader will not try the toothpaste, shaving cream gag. I later learned it was the approved amateur, sure-fire way to smuggle films and money, that the most imbecilic customs and secret-police agent looks there first, and that had they bothered to search

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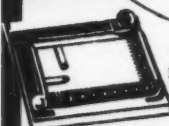
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All photographers.	Any subject.	Over 50 merchandise prizes totaling \$1250 plus a scholarship at the New York Institute of Photography.	DeJure Amsco Corp., Shelton, Conn.	September 30
Press photographers.	An event or scene showing cigars favorably.	\$50, \$35, \$25, \$15, and 10 awards of \$10 each.	Photo Judges, Cigar Institute of America, 630 Fifth Ave., New York City.	September 30
Camp Fire Girls.	Photographs expressing "America the Beautiful."	\$100 scholarship award for study at the School of Modern Photography to winner in the Metropolitan area.	America the Beautiful Committee, Camp Fire Girls, Inc., 88 Lexington Ave., New York City.	November 1

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Two models. No. MB 102, 250 W 110/120 V has life of 3000 hours. Can be used with any type of photo flood reflector. Per Pair \$1.70.

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us, I probably would have been shot—not for an offense against the Reich, but for being so stupid as to pull an old wheeze like that!

Book Reviews

PHOTOGRAPHIC EMULSION TECHNIQUE. By T. Thorne Baker, F. R. P. S. 263 pages, illustrated, 5½ x 8 inches. American Photographic Publishing Company, publishers. Price, \$4.00.

This book is a plain manual, fully illustrated, with complete working directions for making all kinds of photographic emulsions. Mr. Baker has had a long practical experience in the manufacture of photographic sensitive materials and is an up-to-date authority on the subject. He is a scientist who writes in terms perfectly intelligible to the layman.

The book traces the technical developments of emulsion-making from its earliest beginnings up to its latest product, explains basic principles, and the chemical processes involved. It is a most comprehensive work. Step-by-step directions are given for the making of both positive and negative materials, whether in work-scale quantity, or in laboratory lots for personal use. While comparatively few people may want to actually make the emulsions, although it will be perfectly feasible for them to do so from the directions given, an innumerable greater number of practicing photographers will like the opportunity to gain a clear understanding of emulsion characteristics.



"Would you mind running over a few more prints?"



PRODUCTS

(Continued from page 80)

Color Prints

Two new color print services have just been announced by Eastman Kodak Company, furnishing part of the long-awaited answer to the demand for color prints from Kodachromes.

These processes will be described in next month's MINICAM. In the meantime, here is a description of the services.

Amateur Color Prints

Kodak Minicolor Prints are enlarged from either 35mm. or Bantam size Kodachrome transparencies by a standardized process in the Kodak Laboratories in Rochester. They are made only from Kodachromes in 2x2 inch mounts with the standard central openings. Enlargements are available in two sizes. The "2X" size is about 2 1/4 x 3 1/4 inches (Price 75 cents).

The larger size "5X" affords a print 5 5/8 x 7 4/5 inches, and prints are returned in mounts—for horizontals 8 3/8 x 10 1/4 inches and for verticals 8 3/8 x 11 9/16 inches; the picture opening, or area, measuring 5 x 7 1/2 inches. (\$3.50).

Professional Color Prints

Kotavachrome Professional Prints are reproduced from Kodachrome Professional Film Transparencies and must be made by the Eastman Kodak Company's Rochester Laboratories. Kotavachrome Professional Prints will appeal to advertisers, commercial and industrial concerns who seek the highest quality of full-color prints for engravings, displays, convention exhibits, etc.

Kotavachrome Professional Prints can be made up to 30x40 inches, a size never before successfully obtained in full color prints.

Kotavachrome prints will be made by Eastman by the Kodachrome process in the sizes listed below. They will be made from all sizes of Kodachrome Professional Film Transparencies except 45x107mm., 6x13cm., and 11x14 inches. The maximum enlargement from any transparency is limited to six diameters. Transparencies may be cropped by indicating desired area clearly by an overlay sent with transparency.

Prices for Kotavachrome Professional Prints are:

Size	8x10	11x14	16x20	30x40
Price per print...	\$12.00	17.50	\$33.00	\$90.00
"	6.00	9.50	18.50	60.00

*Additional prints from same transparencies when ordered at same time.

Kotavachrome Professional Prints are available through dealers.



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8mm. Model, complete with Splicer, Rewind and Film Cement.....\$30.50
8mm. Projector-Editor alone.....22.50
16mm. Model with Sr. Splicer and Rewinds.....52.50

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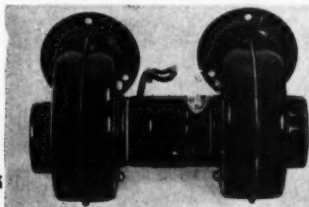
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Model Releases

A set of 15 model releases, printed on easily filed 4x6 cards contains 10 releases for adult models and 5 releases for minors (15c a package of 15, postpaid).

Amateurs who submit prints for competitions or for sale to publications or advertisers will no longer need to have a special release printed for them, since the supply in a single package will meet most amateur's needs for many months.

Sample package and quantity prices will be sent to dealers on request.

Full information from: R. Ritterbrand, Lincoln Printing Co., 735 North Western Ave., Los Angeles, Calif.

Phaostron Model D

The Phaostron Model D (\$14.50; leather case \$2.00) Exposure meter is engineered to give precise readings to within 1/8 of an f-stop, and retains this accuracy throughout its life.

Unaffected by temperature, humidity, rough treatment and age, the Phaostron Model D also has a compensating control that corrects calibrations. This eliminates the need for replacing the instrument's batteries every four months or after 180 exposures, and still insures precise results.

The large Selective Eye, or viewer, through which the object to be photographed is seen, is designed so that any part of the scene may be measured. By tripping the diffusion shutter on the meter, the best average exposure for the scene may be obtained.

Full information from: Phaostron Co., 7 South Grand Ave., Alhambra, Calif.

Course on Synchro-Flash Photography

The Photo League School inaugurates a course in "The Technique of Synchro-Flash Photography" with its Fall Term starting September 9th. Mary Morris, staff photographer of the New York newspaper, PM, and Elton Elisofon, free lance photographer whose work appears in Life magazine, will give six demonstration lectures.

Other courses include Basic Photo Technique, Advanced Technique, and Workshop in Documentary Photography. Classes are held one night a week and continue in 15 weeks.

Further information from: Secretary, Photo League, 31 East 21st Street, New York, N. Y.

Movie on Color Print Making

A 16mm. movie demonstrating the step-by-step production of a color print by the Iso-Color Process, from a set of Kodachrome separation negatives in 40 minutes has just been prepared.

This film will be loaned to camera clubs and dealers without charge.

There are only nine steps to the Iso-Color Process and the simplicity of this method of color print-making makes it possible to show the entire procedure in a film with a running time of only 15 minutes.

Full details on open dates for free booking in local camera clubs, from: Spectrum Products Co., Inc., 10 West 60th St., New York, N. Y.

Infra-Red Ray Drying

The Emby "Dritherm" Infra-red Ray Drying lamp are designed to dry prints or negatives in six to ten minutes, maintaining contrast, eliminating possible grain deformation that may result from slower drying, and eliminating danger of water marks.

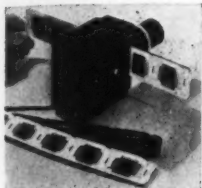
Model MB 101 (\$1.50 pair) is a 240-watt lamp operating on 110-120 volts, with a 3000-hour life. This lamp can be used with any type of metal or cardboard reflector.

Model MB 103 (\$3.00 a pair) is a 250-watt lamp operating on 110-120 volts, with a 5000-hour life. The built-in silvered reflector on this lamp eliminates the need for extra reflectors for drying set-up.

Detailed information from: Emby Products Co., 10 West Pico Blvd., Los Angeles, Calif.

File and Projection Strip Combined

The Filmdex No. 701 combination projector strip and transparency slide file (set of 3 strips, 30c) takes six Kodachromes in ready mounts, either 35mm. or Bantam size. This strip may be used in the projector, to project the set of six slides without disturbing their filing order.



This is a valuable feature for professional men, dentists, surgeons, physicians, skin specialists, etc., who use color slides in their work, and need to keep their material in exact order for quick reference.

Like all Filmdex files, the projector strip, No. 701, has index space on one end and is numbered at the bottom so that titles and numbers of transparencies may be written in. Individual transparencies are quickly removed in case refiling is necessary.

The strips slide easily through most popular-priced projectors. A case to hold 36 projector strips (216 Kodachromes) is also made.

Other Filmdex Systems provide means of filing Kodachrome and other color transparencies up to 8x10" size. Further information from Filmdex, Mt. Kisco, N. Y.

Flashlight Reading Glass

A reading glass that supplies its own illumination for examination of fine lines, small type, hand writing, and small objects has a flashlight in its handle.

A touch of the thumb turns on the illumination when required, enabling the negative retoucher or print finisher to examine minute imperfections in the photographic image with ease. The Glass may also be used without the special illumination for spotting and retouching.

The high-power, finely ground lens gives sharp magnification and is mounted in a spring cushion that prevents chipping or cracking when subjected to sudden jars. Finish is chrome plate.

Prices and further information from: James A. Van Kleeck, P. O. Box 5613, Cleveland, Ohio.

Darkroom Ventilators

The Fotos Ventilator (smallest size, \$6.00) is easily placed in a window or installed in door or wall to provide an absolutely light-tight source of fresh air for the darkroom.

Sizes are made to fit various ventilating requirements. Further details and specifications from: A. I. Rabb, Fotoshop, Inc., 18 East 42nd St., New York, N. Y.



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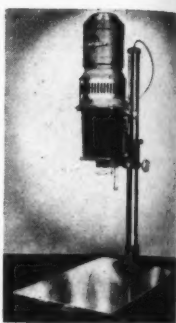
DeJur Professional Enlarger

The DeJur Professional Enlarger (\$99.50) takes negatives 4x5" and smaller and has all the features now included on the DeJur "Versatile".

Enlarger has a 13-inch bellows, which means it can be used with lenses of long focal length. With shorter lenses it can project reduced images from negatives, a convenient feature when making slides or film strips from larger negatives.

A strong supporting column for the enlarger head and a large base board insure freedom from vibration. Lamphouse has DeJur "Dual-Draft" ventilation, and the lighting system has two 6½-inch condensers and heat absorbing filter.

Further details from: DeJur-Amsco Corp., Shelton, Conn.



Abrasion-Tone Kit

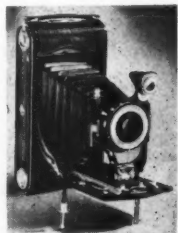
The Mortensen Abrasion-Tone Kit (\$4.50) contains all working tools and materials mentioned in William Mortensen's book "Print Finishing" and in his magazine articles on the Mortensen Abrasion-Tone method, packed in a convenient kit box.

Some of the items are imported, others are made in the U. S. A., but the kit contains only items that are identical with those used by Mortensen himself in his studio at Laguna Beach, Calif.

Mortensen's Texture Screen (11x14", \$5.00) is made in two types. No. 1 is for general work, large heads or pictures having dominant masses. No. 2, a finer texture, is suited to smaller images, landscapes, etc. Texture screens are supplied in a heavy protective case, complete with instructions. The No. 2 screen is also made in 8x10" size (\$3.00).

Distributed under arrangement with William Mortensen, by Oxford Products Co., 1010 South Olive St. Los Angeles, Calif.

New Postcard Kodak



The 3A Kodak Series III makes 3¼x5¼" pictures on No. 122 Kodak roll film. This size picture is large enough to be impressive on album pages and may be used for many types of journalistic photography without enlargement.

Lens is a 170mm. Kodak Anastigmat, f/6.3, which is mounted in a Kodamatic shutter with a speed range from 1/10 to 1/200 second. "Time" "Bulb" and delayed action exposures may also be made.

Camera has a trim case and back covered with genuine

black morocco-grain cowhide. Carrying case is an accessory.

Further information from Eastman Kodak Dealers.

Save Fogged Negatives

Badly fogged negatives of important subjects which cannot be photographed again will often yield satisfactory prints through the following procedure: Using process film, make a positive from the original fogged negative. Then print a negative from that positive, using process film for this image also. The increase in contrast resulting from these two steps generally offsets the flatness caused by the fog on the original negative.

Care of Ferrotypes Plates

Always clean ferrotypes plates with warm water before using them. This removes any particles of gelatin that may have stuck to them when they were last used.

It is not always necessary to polish the plates, if they are kept clean, but at the first tendency for prints to stick, use a polishing solution, such as the following:

	AVOIR.	METRIC
Paraffin Wax	10 grains	0.7 gram
Carbon tetrachloride . . 1 oz.		32 cc.

First wash the plates in warm soapy water and rinse them *thoroughly* with clean water. Then wet a tuft of cotton with polishing solution and go over the plate thoroughly. Polish with a soft cloth, such as canton flannel, until the plates are dry. Leave no visible trace of polish on the plate, or prints will have a greasy appearance.

Immediately before using place the plates, one at a time, in the sink or on a drainboard and spray them with cool water to remove dust or lint.

Do not pile ferrotypes plates on one another when storing them. This produces scratches which will show up in prints ferrotyped on those plates. Place strips of clean blotter, soft paper or cloth between each pair of plates placed (face to face) if they must be stored in contact. A rack is the best solution of the storage problem.

Lost

One 8mm. Bolex Camera, No. 12333 with Plasmalens and Ilex Teletar lens. Direct replies to: American Bolex Co., Inc., 155 East 44th St., New York, N. Y.



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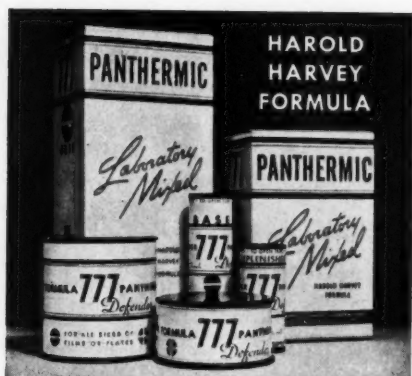
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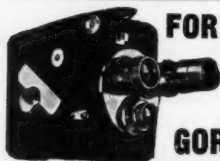


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SHOOTING THE COVER

In working in color, it is the picture itself, which is of paramount importance, rather than the color.

The picture should strike with the punch of a good monochrome; when it doesn't have that effect, it is because we are still too "color-conscious." We are impressed with the seeming miracle of producing in natural color, and are apt to try and capture all the hues of the rainbow in one exposure. The result is that we have lots of color but no picture.

In the cover picture by Avery Slack, simplicity in color use is stressed. No varied assortment of colors distracts the eye from the picture. The first impression is, "What a beautiful girl," and that is as it should be.

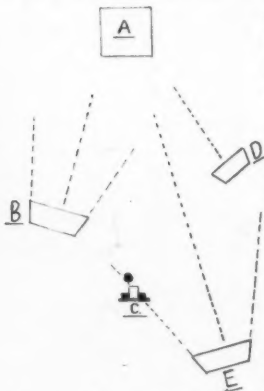
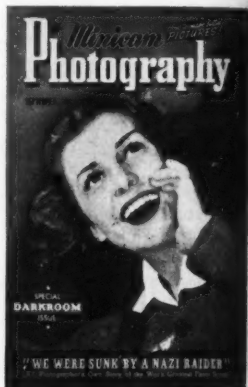
The model is Sherrie Overton, one of Hollywood's modern beauties. Her sparkling freshness is projected with dynamic force by the simple modulations of one color note.

The picture was taken on Kodachrome, Type B, at 1/2 second, f/11. Three lights were used as shown in diagram. "A" denotes subject, "C" camera.

The main light "E", six feet from subject, is a 1000-watt (3200° K) lamp in reflector.

Reflector "D" is three feet from subject and raised fairly high to give modelling to the features. "B" is four feet from subject and lowered slightly so as to concentrate light on the jacket. In reflectors D and B, small (No. 1) photofloods were used.

The result captured, in the studio, the spontaneity of the "out-of-doors" type of typical American girl.



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Brilliance and full Contrast!

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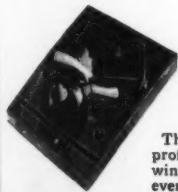
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PAT CANDIDO

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PAT CANDIDO
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grapher
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